

Site Name: FORMER CUSTOM CLEANERS STORE

Alias(es):

City: COLUMBUS **County or Parish:** FRANKLIN

State: OH

Refer to Report Dated: 07/19/2013

EPA ID: OHN000510592

Report Developed By: STATE

State ID:

Report Type: SITE INSPECTION #001

Decision Date: 07/19/2013

- | |
|---|
| <input checked="checked" type="checkbox"/> 1. Further Remedial Site Assessment Under CERCLA (Superfund) is not required because: NFRAP-Site does not qualify for the NPL based on existing information |
| <input type="checkbox"/> 2. Further Assessment Needed Under CERCLA. |
| <input type="checkbox"/> 3. Remedial study/cleanup needed. |

Decision/Rationale:

Previous Qualifier of Assessment Complete - Decision to ensure cost closeout for Vapor Intrusion pilot were accounted.

The U.S. Environmental Protection Agency (EPA) has determined that no further remedial action by the Federal Superfund program is warranted at the referenced site, at this time. The basis for the no further remedial action planned (NFRAP) determination is provided in the attached document. A NFRAP designation means that no additional remedial steps under the Federal Superfund program will be taken at the site unless new information warranting further Superfund consideration or conditions not previously known to EPA regarding the site are disclosed. In accordance with EPA's decision regarding the tracking of NFRAP sites, the referenced site may be removed from the CERCLIS database and placed in a separate archival database as a historical record if no further Superfund interest is warranted. Archived sites may be returned to the CERCLIS site inventory if new information necessitating further Superfund consideration is discovered.

Decision/Rationale (Continued):

Site Decision Made By: PATRICK HAMBLIN, NPL COORDINATOR

Signature: _____

Decision Date: 07/19/2013



John R. Kasich, Governor
Mary Taylor, Lt. Governor
Scott J. Nally, Director

June 3, 2013

Mr. Patrick Hamblin
NPL Coordinator
U.S. EPA, Region 5
Office of Superfund SE 6J
77 West Jackson Blvd.
Chicago, IL 60604

**RE: Former Custom Cleaners
CERCLIS ID OHN000510592**

Dear Mr. Hamblin:

Ohio EPA has completed the Site Investigation (SI) for the Former Custom Cleaners site (the Site) in 2012-2013 under a cooperative agreement with U.S. EPA, Region 5. Ohio EPA performed this work to determine if the Site needed further CERCLA action.

Based on the results of the SI, Ohio EPA recommends that the No Further Response Action Planned (NFRAP) designation be applied to this Site. However, if Site specific conditions change or new information is found, Ohio EPA may request that the Site be re-evaluated for additional federal action at a later date.

Please feel free to contact me at (614) 836-8756 or by e-mail at chris.osborne@epa.state.oh.us if you have any questions regarding Ohio's recommendation.

Sincerely,

Christine Osborne
Site Assessment Supervisor
Ohio EPA | Division of Environmental Response and Revitalization
Assessment, Cleanup, & Reuse (ACRE) Section - Site Investigation Field Unit

cc: Cindy Hafner, DERR
Tiffani Kavalec, DERR
Debbie Strayton, DERR, CDO



Former Custom Cleaners
Columbus, Ohio

Site Inspection Report




Division of Environmental Response and Revitalization
January, 2013

Site Inspection Report

Former Custom Cleaners
Columbus, Franklin County, Ohio
U.S. EPA ID: OHN000510592

Prepared by:



Date: 4/22/13

Raymond R. Moreno, Site Coordinator
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Reviewed by:



Date: 4/22/13

Deborah Strayton, Environmental Manager
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Date: 4/22/13

Christine Osborne, Environmental Supervisor
Site Investigation Field Unit
Division of Environmental Response & Revitalization

Approved by:



Date: 7/19/13

Patrick Hamblin
NPL Coordinator
U.S. EPA Region 5

SITE INSPECTION REPORT

For

**Former Custom Cleaners
Columbus, Franklin County, Ohio
U.S. EPA ID: OHN000510592**

**OHIO ENVIRONMENTAL PROTECTION AGENCY
Division of Environmental Response and Revitalization
Central District Office
50 West Town Street, Suite 700
P.O. Box 1049
Columbus, Ohio 43216-1049**

January 2013

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1.0 EXECUTIVE SUMMARY

The Ohio Environmental Protection Agency (Ohio EPA) Division of Environmental Response and Revitalization (DERR) entered into a cooperative agreement with the United States Environmental Protection Agency (U.S. EPA) Region V to conduct a site inspection of the former Custom Cleaners site, located at 1260 Morse Road in Columbus, Franklin County, Ohio. The site is an unoccupied former dry cleaning facility located in an otherwise occupied shopping center. This report presents the results of the site inspection and provides a discussion of potential exposure pathways.

Site assessment activities conducted by the site owner during 2007 and 2008 confirmed that there had been a release of dry cleaning chemicals to soil beneath and behind the building. The owner conducted remediation activities during 2009. These included removal of accessible soil behind the building and installation of a sub-slab depressurization system to address vapor intrusion inside the building.

Ohio EPA, on behalf of U.S. EPA, previously conducted a pre-CERCLIS screening (PCS) of the site. The PCS report, approved by U.S. EPA on May 31, 2011 and Ohio EPA on July 14, 2011, recommended further assessment of the site and inclusion of the site in CERCLIS. A preliminary assessment (PA) was subsequently conducted by Ohio EPA; the PA was approved by U.S. EPA on December 22, 2011. The PA concluded that additional site assessment work, including sampling, was warranted at the site. Ohio EPA prepared a work plan for a site inspection, which was approved by U.S. EPA on March 14, 2012.

Site inspection field activities were conducted between March 16 and August 27, 2012. Ohio EPA collected five soil samples, five ground water samples, three sub-slab vapor samples, six indoor air samples, one remediation system effluent sample and one outdoor (ambient) air sample for laboratory analysis from the site. In addition, Ohio EPA collected 13 passive diffusion soil vapor samples from adjacent public street rights-of-way in the vicinity of underground utilities (primarily storm sewers and water lines) for screening purposes to determine if further off-site investigation was warranted.

Results of the sampling indicate that sub-slab vapor from remaining soil contamination is present beneath the building floor slab. However, passive diffusion screening samples did not indicate significant off-site migration of soil vapor from the site along preferential pathways (shallow utility corridors.) No significant soil contamination was detected in soil in the vicinity of the soil removal area behind the store. Ground water contamination was not detected in any monitoring wells surrounding the building.

2.0 SITE BACKGROUND

2.1 Site Description

The former Custom Cleaners site is located at 1260 Morse Road in the Woodward Park Shopping Center in Columbus, Ohio (**Figure 1**). The retail space that was occupied by the former Custom Cleaners store is currently vacant.

The Woodward Park Shopping Center occupies a single parcel (Franklin County Parcel # 010-139189) consisting of 3.672 acres located in the city of Columbus. The majority of the site is covered with impervious surfaces including asphalt pavement and the shopping center building with a limited area of grass lawn behind the building along Fenceway Drive. The site is essentially flat with an approximate elevation of 900 feet above mean sea level.

Several businesses occupy the Woodward Park Shopping Center. Businesses adjacent to the former Custom Cleaners store within the shopping center include a Save-A-Lot grocery store to the west and Buckeye Finance to the east (**Figure 2**). Nearby land use along both sides of Morse Road is commercial. Adjacent properties include a McDonalds Restaurant to the east and a former gas station to the west. Surrounding land use to the north, northeast and northwest is residential.

2.2 Site History

The site operated as a retail dry cleaning business from the mid-1960s until November 2006. The business had several owners during that time who apparently leased the site from the shopping center owners. The most recent occupant was Custom Cleaners.

A September 2, 1986 RCRA Site Detail notification listed the site as a small quantity generator of waste with an EPA waste code of F002 (spent halogenated solvents or halogenated solvent mixtures, blends or still bottoms). The site name was listed as Custom Cleaners, Inc. and the owner was listed as Bennie E. Golden.

On August 16, 2007, Ohio EPA received an anonymous complaint from an employee in an adjacent business who was concerned about potential contamination at the site. The complainant made a follow-up call on February 12, 2008.

Ohio EPA contacted Complete General Construction Company, one of the property owners, on February 25, 2008, and was referred to Schneider Link and Company, the property manager. A representative from the property manager's environmental consultant, Civil and Environmental Consultants, Inc. (CEC) contacted Ohio EPA on February 28, 2008, and provided Ohio EPA with verbal

information regarding the site. The CEC representative stated that Phase I and limited Phase II environmental site assessment activities had been conducted at the site on behalf of the owner, which confirmed that a release of dry cleaning chemicals had occurred at the site. Ohio EPA requested copies of the site assessment reports but was informed at that time that the owner did not want to provide copies. Ohio EPA subsequently sent a written request to the property manager for copies of the site assessment reports but the property manager did not respond.

Ohio EPA requested and obtained access to inspect the site from the owner and conducted a site visit on December 9, 2008, accompanied by a CEC representative. According to the CEC representative, six shallow borings had been completed inside the building by a previous consultant. Tetrachloroethene (PCE) and trichloroethene (TCE) were detected in soil beneath the building slab. CEC completed four additional soil borings beneath the building slab and 14 borings behind (north of) the building. PCE and TCE were detected in several of the CEC borings inside and outside of the building. CEC also installed five monitoring wells at the site; however, no volatile organic compounds (VOCs) were detected in ground water.

Sub-slab vapor samples were also collected by CEC beneath the slab of the adjoining businesses in the shopping center. PCE was detected in the sub slab samples. CEC also collected an indoor air sample from the former Custom Cleaners store; numerous VOCs, including PCE, were detected in the sample. During the December 2008 site visit, the CEC representative stated that remedial activities were being planned for the site in 2009.

Ohio EPA contacted CEC in June 2010 to inquire about the status of remediation activities at the site. On June 16, 2010, the property manager's counsel provided Ohio EPA with a copy of a remediation completion report prepared by CEC on October 22, 2009. The report stated that approximately 133 tons of contaminated soil were removed from the site in the area immediately behind (north of) the former Custom Cleaners store in May 2009 and was disposed of as a hazardous waste. Additionally, the report stated that approximately 3000 gallons of water accumulated from a leaking water line were pumped from the excavation and disposed of as a hazardous waste. A sub-slab vapor depressurization system consisting of a 6-inch diameter pipe was installed in the granular subgrade beneath the floor slab of the former store along the west interior wall extending to existing ductwork that vents from the roof top. A motorized fan draws vapor from beneath the slab and vents it to the atmosphere on the roof top of the building. The floor cracks and penetrations in the store's concrete floor were sealed and the entire floor was coated with an epoxy resin sealant. The report states that an indoor air sample was collected after installation of the sub-slab vapor depressurization system and that PCE and TCE were not detected above laboratory reporting limits.

A RCRA Site Detail notification received on February 26, 2009 listed the site as a large quantity generator (OHD065988461) with EPA waste codes of F001 (spent halogenated solvents used in degreasing and halogenated solvent mixtures, blends and still bottoms) and F002. The site name was listed as Woodward Park Shopping Center and the owner and operator were listed as Woodpark Park Shopping Center since June 25, 1964. It appears that the large quantity generator identification number was obtained for purposes of removal and disposal of contaminated soil associated with the site remediation activities.

On October 15, 2010, Ohio EPA's Division of Hazardous Waste Management (DHWM) sent a notice of violation to Jeffrey Link of the Woodward Park Shopping Center for failure to provide a Hazardous Waste Annual Report for 2009 for the disposal of 141.50 tons of the hazardous waste soil. The report requested an annual report within 30 days of receipt of the letter. The requested information was received on June 28, 2011. DHWM (now the Division of Materials and Waste Management) sent the property manager a notice of return to compliance on June 29, 2011.

On July 21, 2011, Ohio EPA sent a request for information under authority of CERCLA 104(e) to the property manager requesting copies of four site assessment reports that were referenced in the October 2009 remediation completion report for the site. Ohio EPA received copies of the four reports on August 12, 2011.

2.3 Summary of Site Work Conducted by Owners

Four site assessment reports documenting investigative activities conducted at the site prior to remediation were prepared between December 11, 2006 and May 28, 2008 by environmental consultants on behalf of the property owner.

- Phase I Environmental Site Assessment, Zwick Environmental Consultants, LLC, December 11, 2006
- Phase II Environmental Site Assessment Report, Easton Environmental Engineering, April 17, 2007
- Limited Phase II Site Assessment Report, Civil and Environmental Consultants, Inc., April 21, 2008
- Phase II Site Assessment and Summary Report, Civil and Environmental Consultants, Inc., May 28, 2008

Zwick Environmental conducted the site investigation for a Phase I site assessment in November 2006 shortly after the dry cleaning operations had ceased but before the dry cleaning equipment had been removed. Five drums of PCE were observed during their site inspection. Zwick noted that there was a lack of operational history and waste documentation for the site. Zwick's December 2006 Phase I report recommended that a Phase II site assessment be conducted.

Easton Environmental conducted a Phase II site assessment of the site, which included completion of six hand-augered borings beneath the floor slab in March 2007. PCE and TCE were detected in soil samples from the borings with PCE concentrations up to 36.8 mg/kg. Easton's April 2008 Phase II report recommended additional investigation at the site.

CEC conducted additional investigation as part of a limited Phase II site assessment during March 2008, which included completion and sampling of four additional soil borings inside the former Custom Cleaners store, three soil borings outside the shopping center building and three ground water monitoring wells outside the building. PCE was detected at concentrations up to 300 mg/kg in Boring B-3 (2 – 4 feet), one of the borings located behind the store. In general, the VOC concentrations decreased with depth and were not detected in samples collected below 10 feet. The three monitoring wells were sampled for VOCs; no VOCs were detected in the monitoring wells. Ground water flow was to the west. The results of CEC's April 2008 report recommended additional investigation.

CEC completed ten additional soil borings immediately north of the former Custom Cleaners store during the April 2008 Phase II site assessment to further delineate the area where VOCs were previously detected. Two additional monitoring wells were also completed on the west side of the shopping center property (in presumed downgradient locations). PCE was detected in soil samples from five of the ten soil borings. VOCs were not detected in the two new and three existing monitoring wells.

CEC also collected three sub-slab soil gas samples from adjacent businesses in the shopping center. Two sub-slab samples were collected from beneath the slab of the Save-A-Lot grocery store to the west and one sub-slab sample was collected from the Buckeye Finance office to the east. No sub-slab samples were collected from the former Custom Cleaners store, however. VOCs, including PCE ranging from 9.9 parts per billion volume/volume (ppb v/v) to 510 ppb v/v were detected in the soil gas samples. CEC also collected one indoor air sample from inside the former Custom Cleaners store and one ambient outdoor air sample. VOCs were detected in the indoor and ambient air samples including PCE at 27 and 0.31J micrograms per cubic meter, respectively.

Based on the results of their additional investigation, CEC recommended remediation at the site. Remediation was conducted during the spring of 2009. Remedial activities included the excavation and off-site disposal of approximately 133 tons of soil from the area immediately north of the store, repair of the floor surface inside of the store and installation of a sub-slab vapor mitigation system as described in Section 2.2, Site History. CEC collected an indoor air sample following installation of the system. The sample was collected in a Summa canister over a 4-hour period and analyzed for PCE and TCE only; neither were detected.

2.4 Regional Geology and Hydrogeology

2.4.1 Geology

North–Central Franklin County is situated in the Till Plains Section of the Central Lowlands Physiographic Province. The area is characterized by low to moderate relief with rolling hills dissected by streams. The topography in this area is primarily the result of Wisconsin-age glaciation. The site area is essentially flat and predominantly covered by the shopping center and asphalt pavement with some grassy areas. The ground surface elevation at the site is approximately 900 feet above mean sea level.

The *Soil Survey of Franklin County, Ohio* (1980) maps soils in the vicinity of the site as Bennington–Urban land complex, 0 to 2 percent slopes. The survey describes these soils as deep, nearly level and poorly drained Bennington silt loam soil and areas of urban land. Much of the soil in this map unit has been altered by development activities including cutting and filling and alteration of drainage.

The surficial geology in the vicinity of the site consists of Wisconsin Age ground moraine. The surficial deposits overlie the Devonian Age Ohio Shale, which in turn overlies the Olentangy Shale, Delaware Limestone and Columbus Limestone. Depth-to-bedrock in the vicinity of the site is approximately 200 feet.

Borings were completed to a depth of approximately 20 feet below ground surface (bgs) during the site assessment activities conducted by CEC. Fill overlying silty clay was logged in the upper 10 to 12 feet in the borings. At approximately 10 to 12 feet bgs, a saturated 1 to 5-foot thick sand and gravel layer was encountered, which in turn overlies silty clay.

2.4.2 Hydrogeology

A search of the Ohio Department of Natural Resources, Division of Water on-line located well database indicated that four water supply wells exist within a one-half mile radius of the site. The wells were completed in minor gravel or sand and gravel lenses within the till deposits with completion depths ranging from 125 feet to 190 feet. The wells were completed between 1950 and 1954. It is not known if they are still in service.

Drinking water in the vicinity of the site is supplied by the city of Columbus municipal water system. The shallow ground water in the vicinity of the site is not known to be utilized as a potable water supply source.

Borings and monitoring wells completed at the site as part of CEC's site assessment activities encountered ground water in the sand and gravel layer approximately 10 to 12 feet bgs. Static water levels in the completed monitoring wells were reported at 3 to 6 feet bgs indicating confined conditions. Ground

water flow was to the west.

2.5 Land Use and Demographic Information

The city of Columbus, county seat of Franklin County and capital of Ohio, is located in central Ohio. The city of Columbus occupies approximately 227 square miles primarily in Franklin County with small portions of the city located in adjoining areas of Fairfield and Delaware Counties. The 2010 estimated population of Columbus was approximately 787,000. The 2010 estimated population of Franklin County was approximately 1,163,000.

The site is located on the north side of the city of Columbus at 1260 Morse Road in the Woodward Park Shopping Center. The shopping center is located on the north side of Morse Road. Morse Road is a major east–west thoroughfare in north Columbus and is lined with retail and other commercial establishments. The area immediately south of the shopping center is primarily retail. The area north of the Woodward Park Shopping Center is residential and is comprised of apartments and single-family homes.

The 4-Mile Radius Maps and Data Package included as **Appendix B** provides additional information on the population surrounding the site.

3.0 SAMPLING METHODS

3.1 Soil Sampling

Ohio EPA advanced four soil borings, GP-1 through GP-4, that were completed as Monitoring Wells MW-6 through MW-9, respectively, at the site on March 26, 2012. The soil borings/monitoring wells were installed in locations supplemental to the locations of the former monitoring wells installed by CEC to better define the extent of any ground water contamination at the site. The soil boring/monitoring well locations are displayed on **Figure 3**.

The borings were advanced with Ohio EPA's hydraulic push drill rig to depths of 16 to 24 feet bgs. Boring logs are included in **Appendix C**. Soil cores were collected in 4-foot lengths in polyacetate core barrel liners. Samples were collected from the cores in 2-foot intervals for field headspace screening with a photoionization detector (PID). At each boring, a soil sample was collected with an Encore® sampler from the interval above where saturation was observed. In Boring GP-4, adjacent to the backfilled remediation area, an additional soil sample in the 4 to 6 foot interval was collected with an Encore® sampler from a co-located boring based on PID screening. Five soil samples were submitted to the U.S. EPA Contract Laboratory Program (CLP) laboratory for analysis for VOCs using CLP methods.

3.2 Ground Water Sampling

The soil borings were completed as 3/4-inch diameter PVC monitoring wells with pre-packed screens. Three of the four monitoring wells were completed with 5-foot screen lengths to depths of approximately 16 feet bgs. Monitoring Well MW-2 was completed with a 10-foot screen to approximately 22 feet bgs due to the lack of coarse-grained material at this location and lack of an apparent saturated zone to place the screen. At each location, approximately 1 foot of sand was placed above the pre-packed screen, followed by hydrated granular bentonite to ground surface. Each well was completed with a flush-mount well casing. After completion, the geographic location and elevation of each well was determined with a Trimble® R-8 GPS receiver. The monitoring wells were developed approximately 24 hours after completion by surging and removing water with a peristaltic pump.

The monitoring wells were sampled on March 28, 2012 using low-flow sampling methods. Prior to sample collection, water levels were collected from each monitoring well using an electronic water level meter. Ground water elevations are presented on **Table 1**.

Table 1: Ground Water Elevations

| Location | Northing | Easting | Elevation to Top of Casing | Depth to water | Ground Water Elevation |
|----------|------------|-------------|----------------------------|----------------|------------------------|
| MW-6 | 751329.289 | 1832377.612 | 899.134 | 7.47 | 891.664 |
| MW-7 | 751312.201 | 1832467.263 | 899.699 | 7.95 | 891.749 |
| MW-8 | 751255.029 | 1832848.701 | 901.17 | 4.86 | 896.31 |
| MW-9 | 751454.262 | 1832649.069 | 900.244 | 4.77 | 895.474 |

The water levels were used to create the potentiometric surface map shown on **Figure 5**. Ground water samples were submitted to the CLP laboratory for analysis for VOC using CLP methods. A duplicate and trip blank were also collected and submitted for laboratory analysis.

3.3 Sub-Slab Vapor Sampling

Sub-slab vapor samples were collected May 30, 2012 from the three locations displayed on **Figure 3** where sub-slab vapor samples were collected by CEC prior to remediation activities. The samples were collected in Summa canisters over an approximate 8-hour period from sampling ports installed through the concrete floor slab in the Save-A-Lot grocery store and Buckeye Finance office. At two locations, the sample was taken from the existing sampling port installed by CEC. At one location in the Save-A-Lot grocery store, however, a new probe (SL-P-1R) was installed because the previous probe could not be located. The sub-slab vapor samples were collected while the sub-slab vapor mitigation system was in operation. The Summa canisters were submitted to U.S. EPA's Chicago Regional Laboratory (CRL) for analysis for VOCs. The data were validated by TechLaw, U.S. EPA's Environmental Services Assistance Team (ESAT) contractor.

3.4 Indoor Air Sampling

Six indoor air samples and one outdoor (ambient or background) sample were collected at the site on May 30, 2012. Two indoor air samples were collected from the back room of the Save-A-Lot grocery store in the vicinity of the sub-slab vapor sample locations, one indoor air sample was collected from the Buckeye Finance office and three indoor air samples were collected from the former Custom Cleaners store. An additional sample for background purposes was collected from a location outside of the former Custom Cleaners store. The samples were collected with Summa canisters over an approximate eight hour period. The indoor air samples were collected during normal business hours. The Buckeye Finance office and Save-A-Lot grocery store were open for business with the heating, ventilation and air conditioning (HVAC) systems in normal operating mode. The samples collected from the unoccupied former Custom Cleaners store were collected with the HVAC system off. The Summa

canisters were submitted to CRL for analysis for VOCs and validated by TechLaw.

3.5 Passive Soil Vapor Sampling

Thirteen passive diffusion samplers (Gore® Samplers; W.L. Gore Co.) were installed in the vicinity of the site on August 22, 2012. The samplers were installed adjacent to shallow utilities (primarily storm sewers and water lines) in the vicinity of the Woodward Park Shopping Center. Twelve of the 13 samplers were installed in public rights-of-way including nearby residential streets between the curb and sidewalk. One sampler was also installed in the backfilled remedial excavation behind the former Custom Cleaners store. The sample points are displayed on **Figure 4**.

The samplers were installed in an approximate 3-foot deep borehole advanced with a power drill with a 3/4-inch diameter bit. The samplers were suspended from a string just above the bottom of the borehole. The lithology and relative soil moisture were recorded at each location. The samplers were retrieved on August 27, 2012, placed in dedicated glass vials and shipped to W.L. Gore for laboratory analysis for VOCs.

3.6 Quality Assurance / Quality Control

Standard quality assurance and quality control procedures for site inspection field activities were followed during the investigation. These procedures, including sample collection, packaging and shipping, and equipment decontamination, are documented in the "Quality Assurance Project Plan (QAPP) for Region 5 Superfund Site Inspection activities for Ohio EPA and Ohio EPA Field Standard Operating Procedures." Under the Hazard Ranking System rule, results are considered significant if they are at least three times the background sample result and above the Contract Required Quantitation Limit (CRQL). The CRQLs can be found in **Appendix D**.

The soil and ground water samples were analyzed by CLP laboratories for VOCs. The CLP data were reviewed by U.S.EPA Region 5 for compliance with the Contract Laboratory Program and validated by a Level 3 data review. The CLP data package is contained in **Appendix E**.

The sub-slab vapor and indoor air samples were analyzed by U.S. EPA's CRL for VOCs. The data were validated by TechLaw, U.S. EPA's ESAT contractor. The sub-slab and indoor air sample data package can be found in **Appendix F**.

The passive soil vapor samples were analyzed by the manufacturer of the samplers, W. L. Gore. The passive soil vapor sample data package is located in **Appendix G**.

4.0 RESULTS AND FINDINGS

4.1 General Site Observations

The site inspection activities described below were conducted by Ohio EPA Central District Office and Site Investigation Field Unit personnel during three mobilizations between March and August 2012. During that time the former Custom Cleaners store was unoccupied. Access to the former Custom Cleaners store, Save-A-Lot grocery store and Buckeye Finance office was provided by the shopping center owners. The owner's site representative, CEC, was on-site during a portion of the site inspection to observe the sampling activities.

The floor of the former Custom Cleaners store had been repaired and covered with an epoxy finish to seal cracks. However, it was noted that a gap still existed between the block wall and concrete floor slab. The HVAC system was not in operation in the former Custom Cleaners store during the sub-slab vapor and indoor air sampling activities. The sub-slab depressurization system was in operation at the time. It was observed that the power was supplied to the system's motor through a power cord plugged into a standard wall outlet rather than "hard wired" into the electrical system.

The Save-A-Lot grocery store sub-slab vapor and indoor air samples were collected from a back storage room located along the east wall of the store. The samples were collected during normal business hours with the HVAC system in operation. The Buckeye Finance office sub-slab vapor sample was collected near the southwest corner of the office and the indoor air sample was collected from the approximate center of the office space. These samples were also collected during normal business hours with the HVAC system in operation.

The excavation area on the north side of the former Custom Cleaners store had been restored with new concrete pavement in the area that had been previously paved and grass lawn in areas that had been previously lawn area.

4.2 Site Geology and Hydrogeology

Borings completed at the site during March 2012 encountered silty clay to clayey silt with a trace of sand and gravel, overlying a 1 to 2-foot layer of silty sand and gravel at approximately 12 feet bgs. Boring GP-2 did not encounter the coarser grained materials at this depth necessitating the need for a longer well screen. Ohio EPA's borings, in general, corroborated the boring logs completed by CEC for the site. Boring logs are included in **Appendix C**.

Ground water was encountered at approximately 12 feet bgs with static water levels at 4 to 8 feet bgs after monitoring well completion. Ground water flow direction was to the west-southwest.

4.3 Soil Sample Results

Five soil samples from four soil borings were analyzed for VOCs. The soil sample from the 4 -6 foot interval of Boring GP-4 contained low concentrations of VOCs including PCE at 41 micrograms per kilogram (ug/kg). There were no detections of VOCs in the other four soil samples. The soil sample results can be found in **Appendix E**.

4.4 Ground Water Sample Results

Ground water samples were analyzed for VOCs. VOCs were not detected in the ground water samples. The ground water sample results can be found in **Appendix E**.

4.5 Sub-Slab Vapor Sample Results

Sub-slab vapor samples were collected from the three sampling locations that were sampled by CEC prior to installation of the sub-slab vapor mitigation system. VOCs were detected in the three sub-slab vapor samples. PCE was the only dry-cleaning chemical or breakdown compound detected in the sub-slab vapor samples. PCE was detected at concentrations of 5.23 parts per billion/volume (ppbv), 18.2 ppbv and 136 ppbv in samples collected from BF-P-1, SL-P-1R and SL-P-2, respectively. This compares to pre-remedial concentrations of VOCs collected by CEC in 2008 of 42 ppbv, 510 ppbv and 9.9 ppbv, respectively.

A sample was also collected from the discharge of the sub-slab depressurization system in operation at the former Custom Cleaners store. The sample collected from the remediation system effluent had a PCE concentration of 79.2 ppbv. The sub-slab vapor sample results can be found in **Appendix F**.

4.6 Indoor Air Sample Results

Indoor air samples were collected from the former Custom Cleaners store as well as the Buckeye Finance office and Save-A-Lot grocery store. As with the sub-slab samples, numerous VOCs were detected in the indoor air samples, however, PCE was the only dry cleaning chemical or breakdown compound detected. The indoor air sample results were given in parts per trillion volume and converted to micrograms per cubic meter (ug/m³) based on the molecular weight of the individual compounds. The PCE concentrations in the three indoor air samples collected in the former Custom Cleaners store ranged from 1.4 to 1.8 ug/m³. A PCE concentration of 27 ug/m³ was detected in the pre-remedial sample collected by CEC in 2008. The Save-A-Lot grocery store indoor air samples had PCE concentrations of 1.2 and 1.3 ug/m³ and the Buckeye Finance office indoor air sample had a PCE concentration of 4.5 ug/m³. The outdoor air sample had a PCE concentration of 1.4 ug/m³.

It should be noted that benzene and acrolein had relatively elevated indoor air concentrations although these chemicals were not detected in site soil or ground water and are not believed to be related to contamination of environmental media at the site. The indoor air sample results can be found in **Appendix F**.

4.7 Passive Soil Vapor Sample Results

The passive soil vapor results are presented Appendix F in mass and estimated concentration tables and figures. The mass values for the compounds were derived from laboratory analysis of the diffusion samplers. Concentration data were estimated by the laboratory by using typical literature values for soil type and approximate soil moisture ("dry" or "slightly moist") and are therefore subjective.

PCE was detected in six of the 13 passive sample locations with the highest relative mass/concentration in Sampler P-10 in the vicinity of the soil removal area behind the former Custom Cleaners store with much relatively lower mass/concentrations detected along the utility line locations in the vicinity of the shopping center. TCE and cis 1,2-dichloroethene were detected in only one sample location, P-10. It should be noted that other non-target compounds such as benzene, toluene, ethylbenzene and xylene (BTEX) and total petroleum hydrocarbons (TPH), were detected in 11 and 13 sample locations, respectively. These detections are not believed to be site-related. The highest mass/concentration of BTEX was along Fenceway Drive east of the shopping center and at the location of the former gas station west of the shopping center. The highest TPH mass/concentration was in the vicinity of Sample P-02 along Morse Road.

The passive soil vapor results should be considered screening data only and were used to determine relatively high versus relatively low values, which may infer a potential avenue or direction for off-site migration to be evaluated further if necessary. The passive soil vapor results can be found in **Appendix G**.

5.0 MIGRATION PATHWAYS

The Geographical information system data package and maps can be found in **Appendix B**.

5.1 Soil Pathway

The majority of the Woodpark Park Shopping Center is covered by the shopping center building and asphalt parking areas. There is some limited grass lawn behind the shopping center. The majority of contaminated soil behind the former Custom Cleaners store was excavated and properly disposed of during remediation activities conducted by the shopping center owners in 2009. Contaminated soil that remains at the site is primarily located beneath the concrete floor slab of the building. Therefore, there is no significant direct contact exposure potential to workers or the general public at the site as long as the floor slab remains in place.

5.2 Ground Water Pathway

VOCs were not detected in the five ground water monitoring wells installed and sampled by CEC or the four monitoring wells installed and sampled by Ohio EPA. The nine monitoring wells encircle the shopping center building, therefore, ground water contamination, if present, is limited to a small area directly beneath the shopping center building slab. The shopping center and surrounding area are supplied by the city of Columbus municipal water system. There are no known potable use water wells in the near vicinity of the site. Additionally, the presence of the building over the area of remaining soil contamination prevents infiltration of precipitation and thus leaching of contaminants to groundwater. Therefore there is no significant ground water exposure pathway at the site.

5.3 Surface Water Pathway

There are no surface water drainage courses or bodies of water on or in the immediate vicinity of the site. Surface drainage from the site via parking lot and rooftop runoff is directed to storm sewers on or near the site. The surface water exposure pathway is not significant for the site.

5.4 Air Exposure Pathway

The majority of the site is covered by the shopping center building or asphalt parking surfaces. There is some limited grass lawn area behind the shopping center. The majority of the soil contamination that was present outside the former Custom Cleaners store was remediated by excavation and removal in 2009. The remaining soil contamination is located primarily beneath the concrete floor slab of the former Custom Cleaners store. Therefore, there is currently no significant air exposure pathway as long as the floor slab remains in place.

5.5 Vapor Intrusion Pathway

As discussed previously, soil contamination remains beneath the former Custom Cleaners store concrete floor slab. During 2009, the shopping center owners conducted remediation activities at the site including excavation of soil behind the store, installation of a sub-slab vapor depressurization system beneath the former store concrete floor slab and repairs to the floor surface. The vapor mitigation system consists of a 6-inch diameter vertical pipe installed through the floor into the gravel sub-base beneath the concrete floor slab. An electric fan draws a vacuum from beneath the concrete slab to mitigate vapor intrusion from beneath the slab into the indoor air. The exhaust is discharged into the existing heating ventilation system piping, which is discharged above the building roof.

Sub-slab vapor samples collected from the adjacent businesses as well as an effluent sample from the sub-slab vapor mitigation system indicate that VOC contamination remains present beneath the floor slab.

Indoor air samples did not show elevated concentrations of VOCs related to the former dry cleaning operations with the sub-slab depressurization system in operation. However, relatively elevated concentration of two non-target compounds benzene and acrolein were detected at the site although the source of the detections is not known as these compounds were not detected in site soil or ground water.

Passive diffusion samplers placed in shallow soil borings installed near utilities in the area of the site did not show evidence of significant migration of PCE or its breakdown compounds occurring away from the site.

The vapor intrusion pathway remains potentially complete at the site. The vapor intrusion pathway for site-related chemicals of concern is incomplete as long as the sub-slab depressurization system remains in operation. However, if the sub-slab vapor mitigation system is no longer operated, then there is a potential vapor intrusion pathway to indoor air in the former Custom Cleaners store and adjacent businesses.

6.0 SUMMARY

Site assessment sampling conducted by CEC during 2007 and 2008 on behalf of the shopping center owners confirmed the presence of soil contamination by dry cleaning chemicals beneath the floor slab of the former Custom Cleaners store and behind the store. However, ground water samples collected from monitoring wells around the shopping center building did not yield detections of dry cleaning chemicals or other VOCs.

Sub-slab soil vapor samples collected from the adjoining businesses by CEC, the Save-A-Lot grocery store and Buckeye Finance office yielded detections of numerous VOCs including PCE. An indoor air sample collected from the former Custom Cleaners store yielded an elevated detection of PCE.

In 2009, the shopping center owners conducted remedial activities at the site including removal of accessible soils behind the former Custom Cleaners store and repair of the floor and installation of a sub-slab depressurization system inside the former store.

Ohio EPA, on behalf of U.S. EPA, completed a pre-CERCLA screening and PA to evaluate the site and conducted a site inspection in 2012, which included additional sampling at and near the site. The purpose of the sampling was to augment previous sampling to determine the extent of the remaining contamination, whether the contamination is potentially migrating from the site and whether the remedial measures conducted by the owners have been effective.

Ohio EPA's site inspection sampling activities including the installation and sampling of additional soil borings and monitoring wells to augment the soil and ground water sampling conducted by CEC, sampling sub-slab and indoor air to determine the effectiveness of the sub-slab depressurization system and installation and sampling of passive diffusion samplers as part of a qualitative screening assessment to determine if nearby shallow utility trenches were potentially serving as migration corridors for subsurface vapor migration.

Ohio EPA's soil and ground water sampling did not yield evidence of subsurface contamination outside the former store. One soil sample located near the soil removal area contained a trace amount of PCE. The remaining soil sample and all ground water samples were non-detect for all VOCs indicating that subsurface soil contamination is primarily limited to beneath the former Custom Cleaners store floor slab.

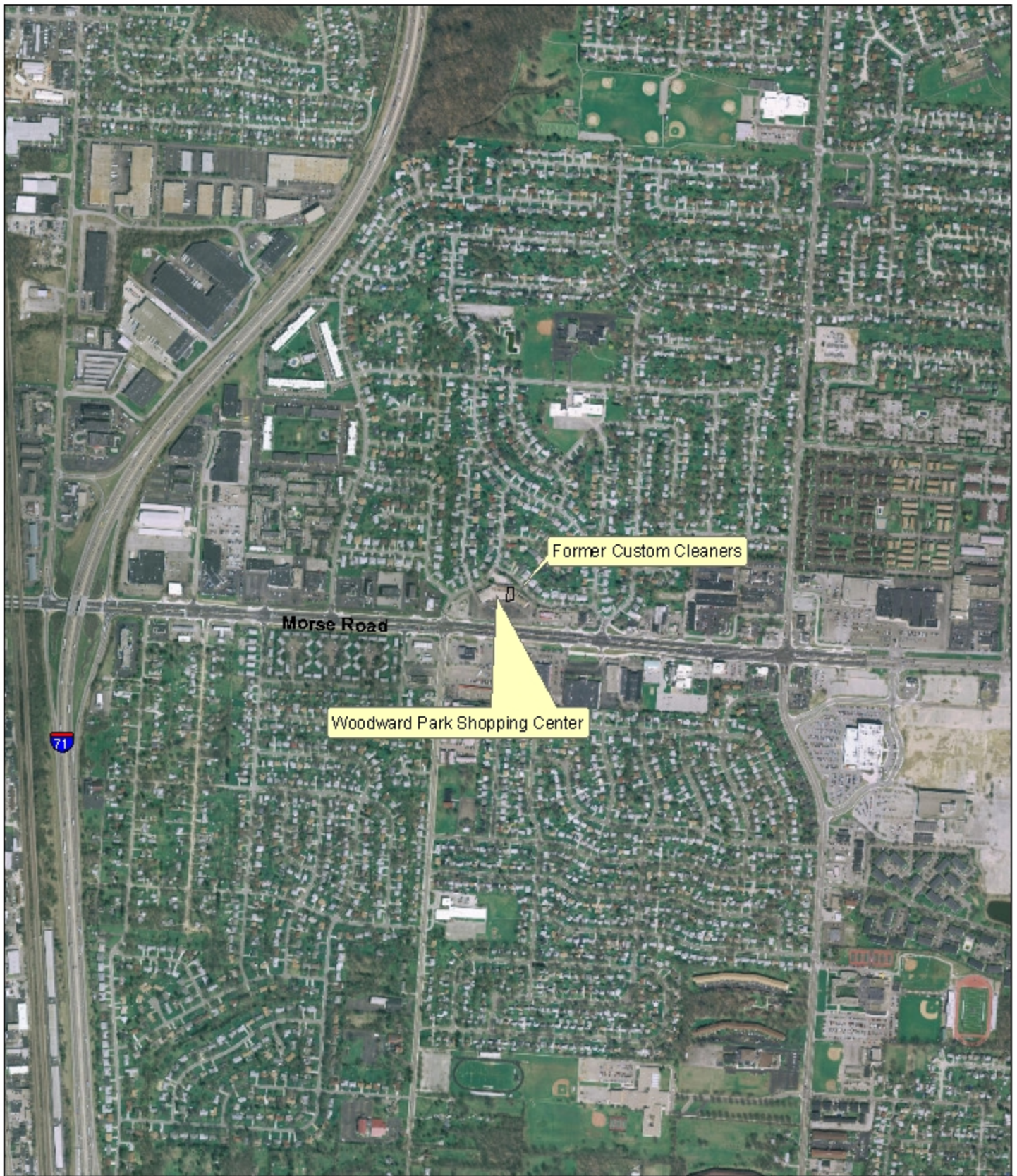
Sub-slab soil vapor sampling, however, detected the presence of numerous VOCs in sub-slab vapor beneath the building at the adjacent Save-A-Lot grocery store and Buckeye Finance office locations. Indoor air samples contained numerous VOCs, however, concentrations of dry cleaning-related chemicals, PCE and breakdown compounds, were less than screening levels for indoor air.

At present, the sub-slab system appears to be effective in mitigating vapor intrusion from PCE and breakdown compounds remaining in the subsurface beneath the building, however, there is no mechanism such as an operation and maintenance agreement to ensure that the system will continue to be operated as long as soil contamination remains beneath the building. If operation of the system is discontinued in the near future, then vapor intrusion into indoor air would likely increase. The source of non-target VOCs in indoor air and sub-slab vapor is not known but may be attributable to non-environmental media sources such as products or processes within the shopping center businesses and ambient air quality. Adjustments that increase air exchange in the HVAC systems may be beneficial.

The passive diffusion sampling results, although only a qualitative screening, did not yield evidence of any significant migration of sub-surface vapor along the utility corridors near the site.

Appendix A

Figures



FORMER CUSTOM CLEANERS
COLUMBUS, FRANKLIN COUNTY, OHIO
2007 AERIAL PHOTOGRAPH

FIGURE 1: SITE LOCATION MAP

Ohio Environmental Protection Agency

0 265 530 1,060 1,590 2,120
Feet



FORMER CUSTOM CLEANERS
1260 MORSE ROAD, COLUMBUS, FRANKLIN COUNTY, OHIO
2007 AERIAL PHOTOGRAPH

FIGURE 2: SITE FEATURES MAP

Ohio Environmental Protection Agency

0 37.5 75 150 225 300 Feet





LEGEND

- ◆ Monitoring Well Location
- ▼ Sub-Slab Soil Vapor Sample Location
- ⊙ Indoor Air Sample Location

FORMER CUSTOM CLEANERS
1260 MORSE ROAD, COLUMBUS, FRANKLIN COUNTY, OHIO
2007 AERIAL PHOTOGRAPH

FIGURE 3: SAMPLE LOCATION MAP

Ohio Environmental Protection Agency

0 20 40 80 120 160
Feet





LEGEND

- Passive Soil Gas Sample Location
- Storm Sewer
- Water Line
- Sanitary Sewer
- Private Sanitary Sewer

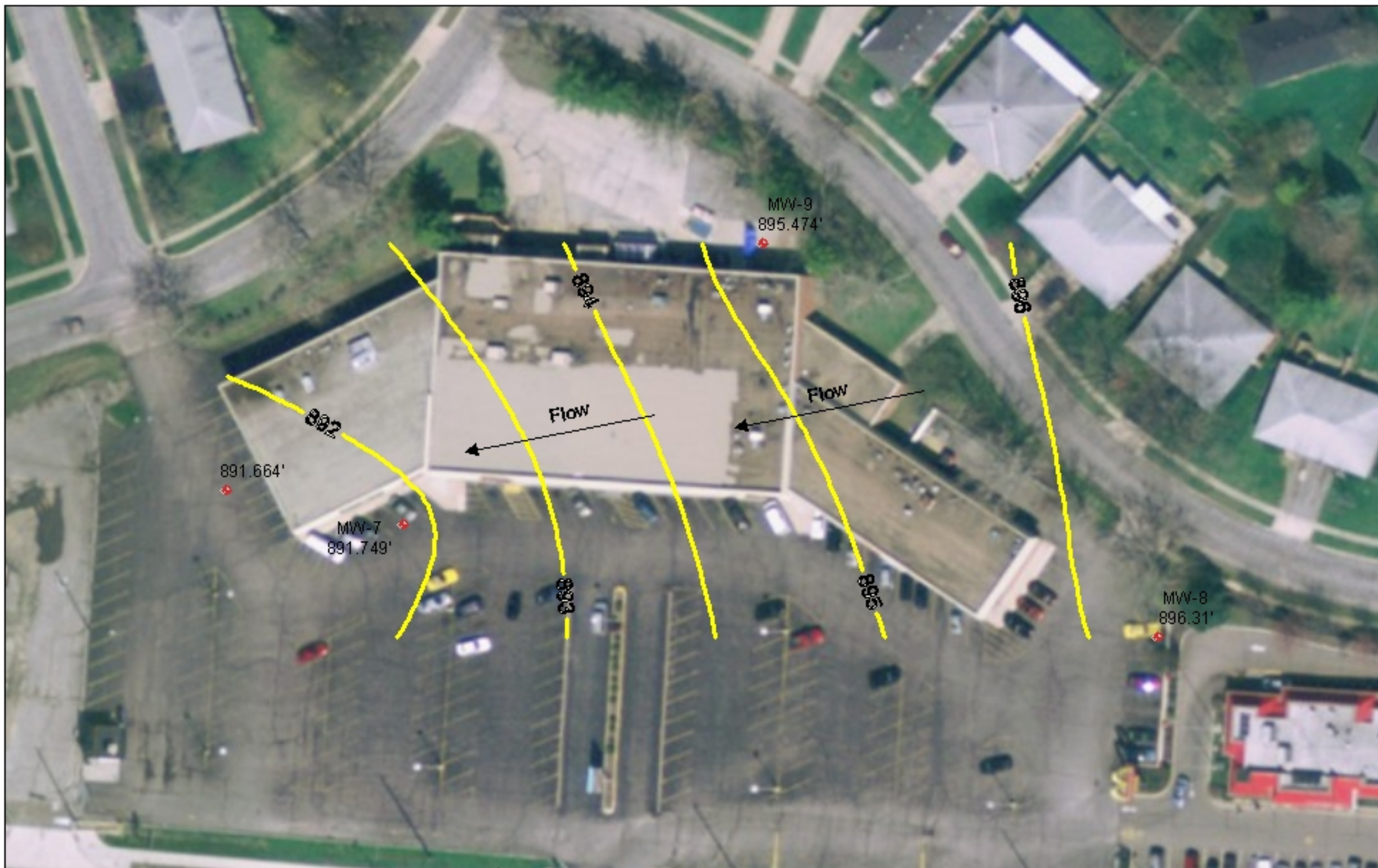
FORMER CUSTOM CLEANERS
1260 MORSE ROAD, COLUMBUS, FRANKLIN COUNTY, OHIO
2007 AERIAL PHOTOGRAPH

FIGURE 4: PASSIVE SOIL GAS SAMPLE LOCATION MAP

Ohio Environmental Protection Agency

0 35 70 140 210 280
Feet





Legend

- ◆ Monitoring Wells
- Contour Lines

FORMER CUSTOM CLEANERS
1260 MORSE ROAD, COLUMBUS, FRANKLIN COUNTY, OHIO
2007 AERIAL PHOTOGRAPH

FIGURE 5: GROUND WATER FLOW MAP 3/28/12

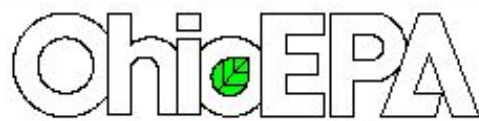
Ohio Environmental Protection Agency

0 15 30 60 90 120 Feet



Appendix B

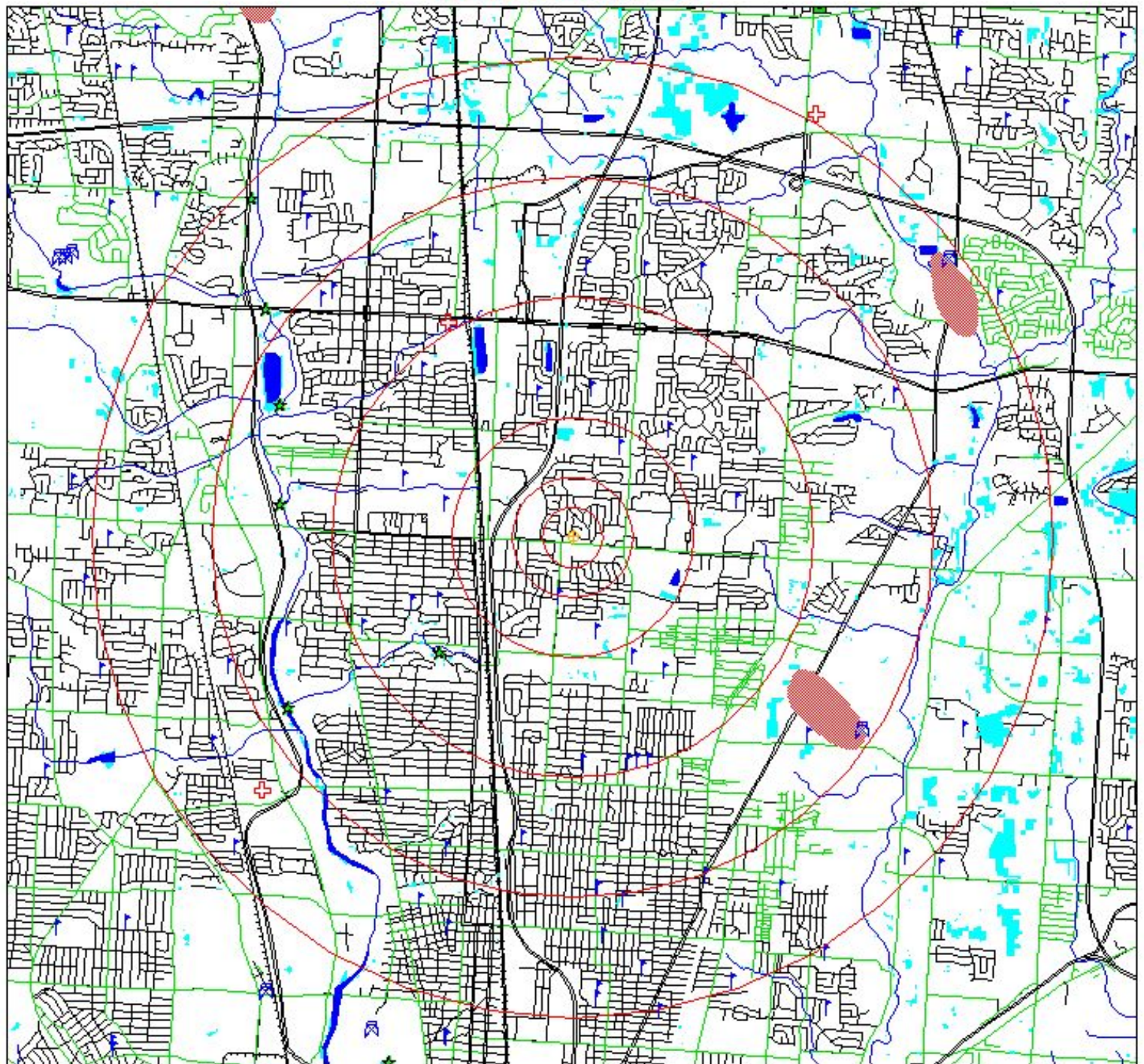
GIS Maps and Tables



Division of Emergency & Remedial Response

GEOGRAPHIC INFORMATION SYSTEM 4-MILE RADIUS MAP

Franklin County Custom Cleaners



- Site
- School
- Hospital
- Public Surface Water Systems
- Public Ground Water Systems
- US Endangered/Threatened Species
- Ohio Endangered/Threatened Species

- Wetland Area
- Lakes & Ponds
- Wellhead Protection Area
- Limit of Radius From Site
- County Boundaries

- Rivers & Streams
- Railroad
- State and Federal Highways
- Local Roads
- Municipal Roads

N



2

0

2 Miles



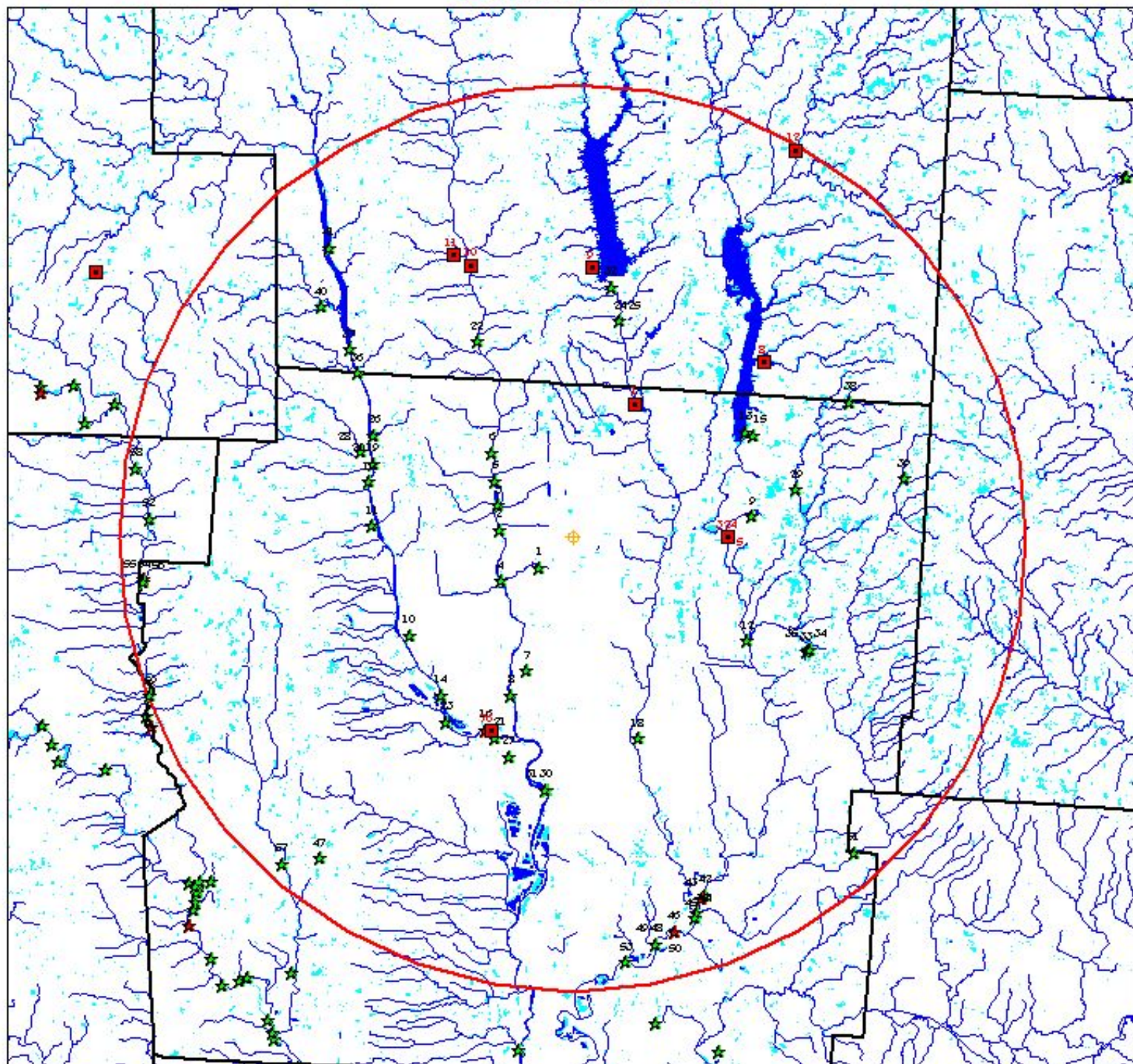


Division of Emergency & Remedial Response

GEOGRAPHIC INFORMATION SYSTEM 15-MILE RADIUS MAP

NATURAL HERITAGE DATA

Custom Cleaners



Site

★ US Endangered/Threatened Species

★ Ohio Endangered/Threatened Species

Public Surface Water Systems

■ Community

■ Non-Community/Transient

■ Non-Community/Non-Transient

▬ Rivers & Streams

▬ Wetland Area

▬ Lakes & Ponds

▬ Limit of Radius From Site

▬ County Boundaries

4 0 4 8 Miles

N



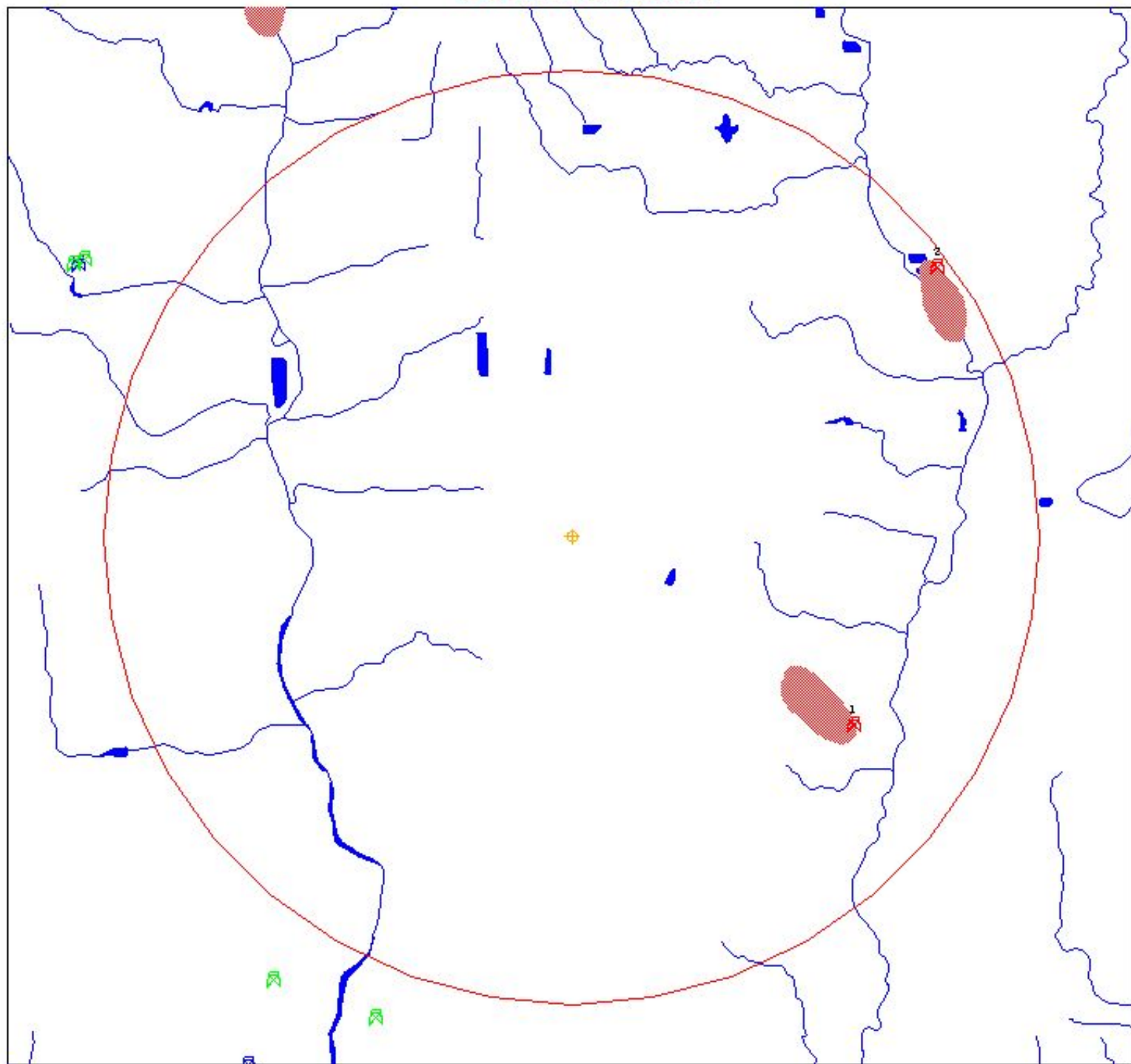


Division of Emergency & Remedial Response

GEOGRAPHIC INFORMATION SYSTEM 4-MILE RADIUS MAP

PUBLIC GROUND WATER SYSTEMS

Custom Cleaners



Site

Public Ground Water Systems

Community

Non-Community/Transient

Non-Community/Non-Transient

Rivers & Streams

Wellhead Protection Area

Lakes & Ponds

Limit of Radius From Site

County Boundaries

1 0 1 Miles

N



| ID_ | STATUS | DISTANCE | SCIENTIFIC NAME | COMMON NAME |
|-----|----------------------|----------|--------------------------------|----------------------------|
| 1 | State Threatened | 1.4567 | NYCTANASSA VIOLACEA | YELLOW-CROWNED NIGHT-HERON |
| 2 | State Endangered | 2.4283 | EPIOBLASMA TRIQUETRA | SNUFFBOX |
| 3 | State Threatened | 2.6596 | ETHEOSTOMA CAMURUM | BLUEBREAST DARTER |
| 4 | State Endangered | 2.7419 | ICHTHYOMYZON FOSSOR | NORTHERN BROOK LAMPREY |
| 5 | State Endangered | 3.1703 | VILLOSA FABALIS | RAYED BEAN |
| 6 | State Endangered | 3.8709 | ETHEOSTOMA MACULATUM | SPOTTED DARTER |
| 7 | State Threatened | 4.6244 | TYTO ALBA | BARN OWL |
| 8 | State Threatened | 5.5518 | UNIOMERUS TETRALASMUS | PONDHORN |
| 9 | State Threatened | 5.9975 | TRIPHORA TRIANTHOPHORA | THREE-BIRDS ORCHID |
| 10 | State Threatened | 6.2560 | NYCTANASSA VIOLACEA | YELLOW-CROWNED NIGHT-HERON |
| 11 | State Endangered | 6.6070 | ARABIS PATENS | SPREADING ROCK CRESS |
| 12 | State Endangered | 6.7212 | ETHEOSTOMA MACULATUM | SPOTTED DARTER |
| 13 | State Endangered | 6.7434 | AGALINIS GATTINGERI | GATTINGER'S-FOXGLOVE |
| 14 | State Endangered | 6.7656 | EPIOBLASMA TRIQUETRA | SNUFFBOX |
| 15 | State Endangered | 6.8840 | AGALINIS GATTINGERI | GATTINGER'S-FOXGLOVE |
| 16 | Federally Endangered | 6.9244 | PLEUROBEMA CLAVA | CLUBSHELL |
| 17 | State Endangered | 6.9442 | ARABIS PATENS | SPREADING ROCK CRESS |
| 18 | State Threatened | 6.9668 | NYCTANASSA VIOLACEA | YELLOW-CROWNED NIGHT-HERON |
| 19 | State Endangered | 7.0195 | ASTER ONTARIONIS | BOTTOMLAND ASTER |
| 20 | State Threatened | 7.0195 | BROMUS NOTTOWAYANUS | SATIN BROME |
| 21 | State Threatened | 7.0556 | UNIOMERUS TETRALASMUS | PONDHORN |
| 22 | State Endangered | 7.2182 | EPIOBLASMA TRIQUETRA | SNUFFBOX |
| 23 | State Endangered | 7.3586 | VILLOSA FABALIS | RAYED BEAN |
| 24 | State Endangered | 7.3614 | EPIOBLASMA TRIQUETRA | SNUFFBOX |
| 25 | State Endangered | 7.3614 | VILLOSA FABALIS | RAYED BEAN |
| 26 | State Endangered | 7.3854 | ARABIS PATENS | SPREADING ROCK CRESS |
| 27 | State Endangered | 7.5000 | CYPERUS ACUMINATUS | PALE UMBRELLA-SEDGE |
| 28 | State Endangered | 7.5423 | ARABIS PATENS | SPREADING ROCK CRESS |
| 29 | State Endangered | 7.5899 | NOTROPIS HETEROLEPIS | BLACKNOSE SHINER |
| 30 | State Threatened | 8.3644 | POLYODON SPATHULA | PADDLEFISH |
| 31 | State Endangered | 8.3658 | HIODON ALOSOIDES | GOLDEYE |
| 32 | State Endangered | 8.4237 | QUADRULA CYLINDRICA CYLINDRICA | RABBITSFOOT |
| 33 | State Endangered | 8.6124 | CAREX DECOMPOSITA | CYPRESS-KNEE SEDGE |
| 34 | State Endangered | 8.6461 | CAREX DECOMPOSITA | CYPRESS-KNEE SEDGE |
| 35 | State Endangered | 8.6915 | CAREX DECOMPOSITA | CYPRESS-KNEE SEDGE |
| 36 | State Threatened | 8.9472 | ETHEOSTOMA CAMURUM | BLUEBREAST DARTER |
| 37 | State Threatened | 9.6446 | NYCTANASSA VIOLACEA | YELLOW-CROWNED NIGHT-HERON |
| 38 | State Endangered | 10.2298 | NOTROPIS HETEROLEPIS | BLACKNOSE SHINER |
| 39 | State Endangered | 11.1540 | VERMIVORA CHRYSOPTERA | GOLDEN-WINGED WARBLER |
| 40 | State Threatened | 11.2742 | BROMUS NOTTOWAYANUS | SATIN BROME |
| 41 | State Threatened | 12.5347 | UNIOMERUS TETRALASMUS | PONDHORN |
| 42 | State Endangered | 12.6079 | QUADRULA CYLINDRICA CYLINDRICA | RABBITSFOOT |
| 43 | Federally Endangered | 12.6517 | PLEUROBEMA CLAVA | CLUBSHELL |
| 44 | State Endangered | 13.0599 | ICHTHYOMYZON FOSSOR | NORTHERN BROOK LAMPREY |
| 45 | State Endangered | 13.2048 | ETHEOSTOMA MACULATUM | SPOTTED DARTER |
| 46 | Federally Endangered | 13.4305 | PLEUROBEMA CLAVA | CLUBSHELL |
| 47 | State Threatened | 13.4741 | BARTRAMIA LONGICAUDA | UPLAND SANDPIPER |
| 48 | State Endangered | 13.7070 | ELLIPTIO CRASSIDENS | ELEPHANT-EAR |
| 49 | State Endangered | 13.7070 | EPIOBLASMA TRIQUETRA | SNUFFBOX |
| 50 | State Endangered | 13.7070 | VILLOSA FABALIS | RAYED BEAN |
| 51 | State Endangered | 13.9616 | ICHTHYOMYZON FOSSOR | NORTHERN BROOK LAMPREY |
| 52 | State Endangered | 13.9851 | EPIOBLASMA TRIQUETRA | SNUFFBOX |
| 53 | State Endangered | 14.1219 | MEGALONAIAS NERVOSA | WASHBOARD |
| 54 | State Endangered | 14.2123 | QUADRULA CYLINDRICA CYLINDRICA | RABBITSFOOT |

| | | | | |
|----|----------------------|---------|-----------------------|----------------------|
| 55 | Federally Endangered | 14.2123 | PLEUROBEMA CLAVA | CLUBSHELL |
| 56 | State Endangered | 14.2497 | EPIOBLASMA RANGIANA | NORTHERN RIFFLESHELL |
| 57 | State Threatened | 14.4124 | UNIOMERUS TETRALASMUS | PONDHORN |
| 58 | State Endangered | 14.5819 | VILLOSA FABALIS | RAYED BEAN |
| 59 | State Endangered | 14.8904 | EPIOBLASMA TRIQUETRA | SNUFFBOX |

Public Ground Water Supply

| ID_ | SYS_TYPE | NAME | ADDRESS | CITY | STATE | DISTANCE | POPULATION |
|-----|-----------|--------------------------|-----------------|-------------|-------|----------|------------|
| 1 | Community | BY WAY MOBILE HOME PARK | 755 STELZER RD | COLUMBUS | OH | 2.8995 | 150 |
| 2 | Community | CITIZENS UTIL HUBER RIDG | 3471 PARIS BLVD | WESTERVILLE | OH | 3.8899 | 6978 |

Population by Radius

| RADIUS | TOTAL | WHITE | BLACK | INDIAN | ASIAN | HAWAII_PAC | OTHER | HOUSING |
|-------------|--------|--------|-------|--------|-------|------------|-------|---------|
| 3.00 - 4.00 | 82196 | 56317 | 18315 | 226 | 4475 | 22 | 2841 | 36588 |
| 2.00 - 3.00 | 69713 | 51738 | 13199 | 159 | 1630 | 23 | 2964 | 30401 |
| 1.00 - 2.00 | 47326 | 34845 | 8827 | 92 | 1185 | 34 | 2343 | 20860 |
| 0.50 - 1.00 | 10620 | 6582 | 3128 | 17 | 279 | 4 | 610 | 4960 |
| 0.25 - 0.50 | 3643 | 2506 | 774 | 6 | 197 | 1 | 158 | 1730 |
| 0.00 - 0.25 | 1134 | 876 | 178 | 2 | 45 | 0 | 34 | 525 |
| TOTALS | 214632 | 152864 | 44421 | 502 | 7811 | 84 | 8950 | 95064 |

Surface Water Systems

| ID | SYS_SOURCE | SYS_TYPE | NAME | ADDRESS | CITY | STATE | DISTANCE | POPULATION |
|----|-------------------------|-----------|--------------------------|---------------------------|--------------|-------|----------|------------|
| 1 | Surface Water | Community | WESTERVILLE, CITY OF | 21 SOUTH STATE STREET | WESTERVILLE | OH | 4.8691 | 35000 |
| 2 | Purchased Surface Water | Community | REYNOLDSBURG, CITY OF | 7232 EAST MAIN STREET | REYNOLDSBURG | OH | 5.1158 | 32500 |
| 3 | Purchased Surface Water | Community | GAHANNA, CITY OF | 200 SOUTH HAMILTON ROAD | GAHANNA | OH | 5.1158 | 27900 |
| 4 | Surface Water | Community | COLUMBUS-HAP CREMEAN WTP | 4250 MORSE ROAD | COLUMBUS | OH | 5.1158 | 446812 |
| 5 | Purchased Surface Water | Community | BEXLEY, CITY OF | 2242 EAST MAIN STREET | BEXLEY | OH | 5.1158 | 13260 |
| 6 | Surface Water | Community | COLUMBUS-DUBLIN ROAD WTP | 940 DUBLIN RD | COLUMBUS | OH | 6.9423 | 331072 |
| 7 | Purchased Surface Water | Community | SANITARY DISTRICT #4 | 410 SOUTH HIGH ST RM 320 | COLUMBUS | OH | 6.9423 | 12322 |
| 8 | Surface Water | Community | LAKE OF THE WOODS WATER | 326 GRANGER ST | GRANVILLE | OH | 8.5360 | 426 |
| 9 | Surface Water | Community | DEL-CO WATER CO/ALUM CR. | 6773 OLENTANGY RIVER ROAD | DELAWARE | OH | 8.9252 | 29928 |
| 10 | Purchased Surface Water | Community | WORTHINGTON ARMS MHC | 5277 COLUMBUS PIKE | LEWIS CENTER | OH | 9.5907 | 410 |
| 11 | Surface Water | Community | DEL-CO WATER/OLENTANGY P | 6773 OLENTANGY RIVER RD. | DELAWARE | OH | 10.1253 | 29928 |
| 12 | Surface Water | Community | SUNBURY, VILLAGE OF | 90 SEDGEWICK DRIVE | SUNBURY | OH | 14.7526 | 3777 |

Appendix C

Boring Logs

Ohio EPA

4675 Homer Ohio Lane
Groveport, OH 43125
Telephone: 614-836-8760, Fax: 614-836-8795
ed.link@epa.state.oh.us

Former Custom Cleaners S.I.
1260 Morse Road
Columbus, Ohio 43229-6321
Franklin County, CDO

Project No./Type: 125-002651-003/ RR Federal

GP-1 / MW-6

Page 1 of 1

LAT/LONG and/or LOCATION DESCRIPTION: West side of building

GROUND ELEVATION:

TOC ELEVATION: 899.13 ft

DRILLING SERVICES: DERR -- Site Investigation Field Unit (SIFU)

START DATE: 3/26/12

COMPLETION DATE: 3/26/12

DRILLER: Karl Reinbold & Jeff Wander, SIFU

DRILLING & SAMPLING METHODS: Soil coring using Geoprobe Dual Tube (DT) cores down to 16' D. Monitoring Well was installed.

LOGGED BY: Ray Moreno, DERR -- Central District Office

GROUND WATER LEVELS

DIAMETER (in): 2.25 O.D. **TOTAL DEPTH (ft):** 16 **REFUSAL (ft):** N. A.

| Date | Time | Depth (ft) | Notes |
|----------|-------|------------|-----------------------------|
| 03/28/12 | 00:00 | 7.37 ▽ | * Per field soil boring log |
| 03/29/12 | 00:00 | 7.47 ▼ | Per field soil boring log |

NOTES:

| DEPTH (ft) | CORING | | SAMPLING | | | REMARKS | GRAPHIC LOG | USCS | MATERIAL DESCRIPTION |
|---------------|--------------|---------------------------------|-------------------------|----------------------------|---------------|---------|----------------|----------|---|
| | Core Type | Core Interval/ Recovery (ft) | Sample Interval (ft) | Sample Purpose/ID | PID (ppmv) | | | | |
| 1 | DT | 0.0-4.0 2.5 | 0.0 - 2.0 | Sample submitted to Lab | 0.5 | 1 | 0.5' | GW | Asphalt and GRAVEL sub-base |
| 2 | | | 2.0 - 4.0 | | 0.1 | 2 | 1.7' | CL/ML | brown, stiff SILTY CLAY to CLAYEY SILT; trace SAND & GRAVEL -- dry |
| 4 | | | 4.0 - 6.0 | | 0.3 | 3 | 2.5' | GW | grey limestone COBBLES -- dry |
| 6 | DT | 4.0-8.0 4.0 | 6.0 - 8.0 | Sample submitted to Lab | 0.3 | | | CL/ML | dark grey SILTY CLAY to CLAYEY SILT; little orange mottling; trace SAND & fine GRAVEL -- moist |
| 8 | | | 8.0 - 10.0 | | 0.3 | | 9' | CL/ML | orange-brown, stiff SILTY CLAY to CLAYEY SILT; little grey mottling; trace SAND & GRAVEL, moist |
| 10 | | | 10.0 - 12.0 | | 0.3 | | 11.2' | SC CL/SM | brown SANDY SILT; little fine GRAVEL -- moist |
| 12 | DT | 12.0-16.0 3.0 | 12.0 - 14.0 | Sample submitted to Lab | -- | | 12' | SC CL/SM | brown SANDY SILT & GRAVEL -- wet |
| 14 | | | 14.0 - 16.0 | | -- | | 12.8' | CL/ML | grey SILTY CLAY to CLAYEY SILT; trace SAND & GRAVEL -- moist |
| 16 | | | | | -- | | 16' | | |

REMARKS:

- ABBREVIATIONS USED: b.g.s. = below ground surface; E.O.B. = End of Boring; GP = Geoprobe; GW = Ground Water; MW = Monitoring Well; SO = soil; S.I. = Federal Site Inspection, CERCLIS ID# OHN000510592
- 3/4" I.D. PVC MW w/ 5' pre-packed screen; total depth = 15.4'; 1' sand above screen; bentonite to ground surface; flush-mount protective casing
- * = Water level measurement for MW-6 measured after sample collection.

Ohio EPA

4675 Homer Ohio Lane
Groveport, OH 43125
Telephone: 614-836-8760, Fax: 614-836-8795
ed.link@epa.state.oh.us

Former Custom Cleaners S.I.
1260 Morse Road
Columbus, Ohio 43229-6321
Franklin County, CDO

Project No./Type: 125-002651-003/ RR Federal

GP-2 / MW-7

Page 1 of 1

LAT/LONG and/or LOCATION DESCRIPTION: Near southwest building corner

GROUND ELEVATION:

TOC ELEVATION: 899.70 ft

DRILLING SERVICES: DERR -- Site Investigation Field Unit (SIFU)

START DATE: 3/26/12

COMPLETION DATE: 3/26/12

DRILLER: Karl Reinbold & Jeff Wander, SIFU

DRILLING & SAMPLING METHODS: Soil coring using Geoprobe Dual Tube (DT) cores down to 24' D. Monitoring Well was installed.

LOGGED BY: Ray Moreno, DERR -- Central District Office

GROUND WATER LEVELS

DIAMETER (in): 2.25 O.D. **TOTAL DEPTH (ft):** 24 **REFUSAL (ft):** N. A.

Date **Time** **Depth (ft)** **Notes**

NOTES:

03/28/12 00:00 7.95 ▽ Per field soil boring log

03/29/12 00:00 7.95 ▼ Per field soil boring log

| DEPTH (ft) | CORING | | SAMPLING | | | REMARKS | GRAPHIC LOG | USCS | MATERIAL DESCRIPTION |
|---------------|--------------|---------------------------------|-------------------------|-------------------------|---------------|---------|----------------|-------|---|
| | Core Type | Core Interval/ Recovery (ft) | Sample Interval (ft) | Sample Purpose/ID | PID (ppmv) | | | | |
| 1 | | | | | | 1 | | | |
| 2 | DT | 0.0-4.0 2.9 | 0.0 - 2.0 | | 0.4 | 2 | 0.8' | GW | Asphalt and GRAVEL sub-base |
| 4 | | | 2.0 - 4.0 | | 0.0 | | | | grey-brown SILTY CLAY to CLAYEY SILT; little orange mottling; trace SAND & fine GRAVEL -- moist |
| 6 | DT | 4.0-8.0 3.1 | 4.0 - 6.0 | | 0.7 | | | CL/ML | |
| 8 | | | 6.0 - 8.0 | | 0.0 | | 8' | | Static Water at 7.95' b.g.s. |
| 10 | DT | 8.0-12.0 3.8 | 8.0 - 10.0 | | 1.8 | | | | orange-brown CLAYEY SILT with grey mottling; trace SAND & GRAVEL -- moist |
| 12 | | | 10.0 - 12.0 | | 1.0 | | | CL/ML | |
| 14 | DT | 12.0-16.0 4.0 | 12.0 - 14.0 | | 1.4 | | 14' | | grey CLAYEY SILT -- moist |
| 16 | | | 14.0 - 16.0 | Sample submitted to Lab | 3.0 | | 16' | CL/ML | |
| 18 | DT | 16.0-20.0 3.5 | 16.0 - 18.0 | | 1.4 | | | | grey, soft CLAYEY SILT; trace to little SAND & fine GRAVEL -- moist |
| 20 | | | 18.0 - 20.0 | | 1.8 | | | CL/ML | |
| 22 | DT | 20.0-24.0 2.8 | 20.0 - 22.0 | | -- | | 22.2' | | grey SILT -- moist to wet |
| 24 | | | 22.0 - 24.0 | | -- | | 24' | ML | End of Soil Boring at 24' b.g.s. |

REMARKS:

- ABBREVIATIONS USED: b.g.s. = below ground surface; E.O.B. = End of Boring; GP = Geoprobe; GW = Ground Water; MW = Monitoring Well; SO = soil; S.I. = Federal Site Inspection, CERCLIS ID# OHN000510592
- 3/4" I.D. PVC monitoring well w/ 10' pre-packed screens; total depth = 22.3'; 1' sand above screen; bentonite to ground surface; flush-mount protective casing

Ohio EPA

4675 Homer Ohio Lane
Groveport, OH 43125
Telephone: 614-836-8760, Fax: 614-836-8795
ed.link@epa.state.oh.us

Former Custom Cleaners S.I.
1260 Morse Road
Columbus, Ohio 43229-6321
Franklin County, CDO

Project No./Type: 125-002651-003/ RR Federal

GP-3 / MW-8

Page 1 of 1

LAT/LONG and/or LOCATION DESCRIPTION: East side of shopping center

GROUND ELEVATION:

TOC ELEVATION: 901.17 ft

DRILLING SERVICES: DERR -- Site Investigation Field Unit (SIFU)

START DATE: 3/26/12

COMPLETION DATE: 3/26/12

DRILLER: Karl Reinbold & Jeff Wander, SIFU

DRILLING & SAMPLING METHODS: Soil coring using Geoprobe Dual Tube (DT) cores down to 16' D. Monitoring Well was installed.

LOGGED BY: Ray Moreno, DERR -- Central District Office

GROUND WATER LEVELS

DIAMETER (in): 2.25 O.D. **TOTAL DEPTH (ft):** 16 **REFUSAL (ft):** N. A.

| Date | Time | Depth (ft) | Notes |
|----------|-------|------------|---------------------------|
| 03/28/12 | 00:00 | 4.60 ▽ | Per field soil boring log |
| 03/29/12 | 00:00 | 4.86 ▼ | Per field soil boring log |

NOTES:

| DEPTH (ft) | CORING | | SAMPLING | | | REMARKS | GRAPHIC LOG | USCS | MATERIAL DESCRIPTION |
|---------------|--------------|---------------------------------|-------------------------|---------------------------|---------------|---------|----------------|-------|--|
| | Core Type | Core Interval/ Recovery (ft) | Sample Interval (ft) | Sample Purpose/ID | PID (ppmv) | | | | |
| 0 | | | 0.0 - 2.0 | | 1.6 | 1 | 0.6' | GW | Asphalt and GRAVEL sub-base |
| 2 | DT | 0.0-4.0 2.0 | 2.0 - 4.0 | [No recovery] | -- | 2 | | | orange-brown, soft CLAYEY SILT with little grey mottling; trace SAND & GRAVEL -- moist |
| 4 | | | | | | | | CL/ML | Static Water at 4.6' b.g.s. |
| 6 | DT | 4.0-8.0 2.0 | 6.0 - 8.0 | [No recovery] | -- | | | | |
| 8 | | | | | | | | | |
| 10 | DT | 8.0-12.0 3.2 | 8.0 - 10.0 | | 1.9 | | 8.8' | CL/ML | grey CLAYEY SILT; trace SAND & GRAVEL -- moist |
| 12 | | | | Interval submitted to Lab | 2.1 | | | | |
| 14 | DT | 12.0-16.0 2.8 | 12.0 - 16.0 | | -- | | 12.3' 12.8' | SM/GM | grey SILTY SAND & GRAVEL -- wet |
| 16 | | | | | | | | CL/ML | grey, soft CLAYEY SILT; trace SAND & GRAVEL -- moist |
| | | | | | | | 16' | | End of Soil Boring at 16' b.g.s. |

REMARKS:

- ABBREVIATIONS USED: b.g.s. = below ground surface; E.O.B. = End of Boring; GP = Geoprobe; GW = Ground Water; MW = Monitoring Well; SO = soil; S.I. = Federal Site Inspection, CERCLIS ID# OHN000510592
- 3/4" I.D. PVC monitoring well w/ 5' pre-packed screen; total depth = 15.8'; 1' sand above screen; bentonite to ground surface; flush-mount protective casing

Ohio EPA

4675 Homer Ohio Lane
Groveport, OH 43125
Telephone: 614-836-8760, Fax: 614-836-8795
ed.link@epa.state.oh.us

Former Custom Cleaners S.I.
1260 Morse Road
Columbus, Ohio 43229-6321
Franklin County, CDO

Project No./Type: 125-002651-003/ RR Federal

GP-4 / MW-9

Page 1 of 1

LAT/LONG and/or LOCATION DESCRIPTION: North side of Custom Cleaners near Soil Removal Area

GROUND ELEVATION:

TOC ELEVATION: 900.24 ft

DRILLING SERVICES: DERR -- Site Investigation Field Unit (SIFU)

START DATE: 3/26/12

COMPLETION DATE: 3/26/12

DRILLER: Karl Reinbold & Jeff Wander, SIFU

DRILLING & SAMPLING METHODS: Soil coring using Geoprobe Dual Tube (DT) cores down to 16' D. Monitoring Well was installed.

LOGGED BY: Ray Moreno, DERR -- Central District Office

GROUND WATER LEVELS

DIAMETER (in): 2.25 O.D. **TOTAL DEPTH (ft):** 16 **REFUSAL (ft):** N. A.

| Date | Time | Depth (ft) | Notes |
|------|------|------------|-------|
|------|------|------------|-------|

NOTES:

| | | | |
|----------|-------|--------|---------------------------|
| 03/28/12 | 00:00 | 4.46 ▽ | Per field soil boring log |
| 03/29/12 | 00:00 | 4.77 ▼ | Per field soil boring log |

| DEPTH (ft) | CORING | | SAMPLING | | | REMARKS | GRAPHIC LOG | USCS | MATERIAL DESCRIPTION | |
|---------------|--------------|---------------------------------|-------------------------|---------------------------|---------------|---------|----------------|-------|--|--|
| | Core Type | Core Interval/ Recovery (ft) | Sample Interval (ft) | Sample Purpose/ID | PID (ppmv) | | | | | |
| 0 | | | 0.0 - 2.0 | | 1.2 | 1 | | | Concrete (cored) | |
| 2 | DT | 0.0-4.0 2.6 | 2.0 - 4.0 | | 1.1 | 2 | | CL/ML | orange-brown & grey mottled CLAYEY SILT; trace SAND & GRAVEL -- slightly moist | |
| 4 | | | 4.0 - 6.0 | Interval submitted to Lab | 1.4 | | | | orange-brown CLAYEY SILT; trace SAND & GRAVEL -- slightly moist | |
| 6 | DT | 4.0-8.0 3.3 | 6.0 - 8.0 | | 1.3 | | | CL/ML | Static Water at 4.46' b.g.s. | |
| 8 | | | 8.0 - 10.0 | | 1.0 | | | | | |
| 10 | DT | 8.0-12.0 2.7 | 10.0 - 12.0 | Interval submitted to Lab | 1.5 | | | CL/ML | grey, stiff CLAYEY SILT; some SAND & GRAVEL -- dry | |
| 12 | | | 12.0 - 14.0 | | -- | | | SM/GM | grey SILTY SAND & GRAVEL -- wet | |
| 14 | DT | 12.0-16.0 1.7 | 14.0 - 16.0 | | -- | | | CL/ML | dark grey, stiff CLAYEY SILT; some SAND & GRAVEL -- moist | |
| 16 | | | | | | | | | End of Soil Boring at 16' b.g.s. | |

REMARKS:

- ABBREVIATIONS USED: b.g.s. = below ground surface; E.O.B. = End of Boring; GP = Geoprobe; GW = Ground Water; MW = Monitoring Well; SO = soil; S.I. = Federal Site Inspection, CERCLIS ID# OHN000510592
- 3/4" I.D. PVC monitoring well w/ 5' pre-packed screen; total depth = 15.6'; 1' sand above screen; bentonite to ground surface; flush-mount protective casing

Appendix D

Contract Required Quantitation Limits (CRQL)

Table 1. Target Compound List (TCL) and Contract Required Quantitation Limits (CRQLs) for SOM01.1*

| Quantitation Limits | | | | | | Quantitation Limits | | | | | |
|--|---------------------------|--------------------|------------------|------------------|-------------------|-----------------------------------|---------------------------|--------------------|-------------------------|------------------|-------------------|
| | Trace Water by SIM (µg/L) | Trace Water (µg/L) | Low Water (µg/L) | Low Soil (µg/kg) | Med. Soil (µg/kg) | | Trace Water by SIM (µg/L) | Trace Water (µg/L) | Low Water (µg/L) | Low Soil (µg/kg) | Med. Soil (µg/kg) |
| <u>VOLATILES</u> | | | | | | <u>VOLATILES (CON'T)</u> | | | | | |
| 1. Dichlorodifluoromethane | | 0.50 | 5.0 | 5.0 | 250 | 40. Ethylbenzene | | 0.50 | 5.0 | 5.0 | 250 |
| 2. Chloromethane | | 0.50 | 5.0 | 5.0 | 250 | 41. o-Xylene | | 0.50 | 5.0 | 5.0 | 250 |
| 3. Vinyl Chloride | | 0.50 | 5.0 | 5.0 | 250 | 42. m, p-Xylene | | 0.50 | 5.0 | 5.0 | 250 |
| 4. Bromomethane | | 0.50 | 5.0 | 5.0 | 250 | 43. Styrene | | 0.50 | 5.0 | 5.0 | 250 |
| 5. Chloroethane | | 0.50 | 5.0 | 5.0 | 250 | 44. Bromoform | | 0.50 | 5.0 | 5.0 | 250 |
| 6. Trichlorofluoromethane | | 0.50 | 5.0 | 5.0 | 250 | 45. Isopropylbenzene | | 0.50 | 5.0 | 5.0 | 250 |
| 7. 1,1-Dichloroethene | | 0.50 | 5.0 | 5.0 | 250 | 46. 1,1,2,2-Tetrachloroethane | | 0.50 | 5.0 | 5.0 | 250 |
| 8. 1,1,2-Trichloro-1,2,2-trifluoroethane | | 0.50 | 5.0 | 5.0 | 250 | 47. 1,3-Dichlorobenzene | | 0.50 | 5.0 | 5.0 | 250 |
| 9. Acetone | | 5.0 | 10 | 10 | 500 | 48. 1,4-Dichlorobenzene | | 0.50 | 5.0 | 5.0 | 250 |
| 10. Carbon Disulfide | | 0.50 | 5.0 | 5.0 | 250 | 49. 1,2-Dichlorobenzene | | 0.50 | 5.0 | 5.0 | 250 |
| 11. Methyl acetate | | 0.50 | 5.0 | 5.0 | 250 | 50. 1,2-Dibromo-3-chloropropane | 0.050 | 0.50 | 5.0 | 5.0 | 250 |
| 12. Methylene chloride | | 0.50 | 5.0 | 5.0 | 250 | 51. 1,2,4-Trichlorobenzene | | 0.50 | 5.0 | 5.0 | 250 |
| 13. trans-1,2-Dichloroethene | | 0.50 | 5.0 | 5.0 | 250 | 52. 1,2,3-Trichlorobenzene | | 0.50 | 5.0 | 5.0 | 250 |
| 14. Methyl tert-butyl ether | | 0.50 | 5.0 | 5.0 | 250 | | | | | | |
| | | | | | | | Low Water by SIM (µg/L) | Low Water (µg/L) | Low Soil by SIM (µg/kg) | Low Soil (µg/kg) | Med. Soil (µg/kg) |
| | | | | | | <u>SEMIVOLATILES</u> | | | | | |
| 15. 1,1-Dichloroethane | | 0.50 | 5.0 | 5.0 | 250 | 53. Benzaldehyde | | 5.0 | | 170 | 5000 |
| 16. cis-1,2-Dichloroethane | | 0.50 | 5.0 | 5.0 | 250 | 54. Phenol | | 5.0 | | 170 | 5000 |
| 17. 2-Butanone | | 5.0 | 10 | 10 | 500 | 55. bis-(2-chloroethyl) ether | | 5.0 | | 170 | 5000 |
| 18. Bromochloromethane | | 0.50 | 5.0 | 5.0 | 250 | 56. 2-Chlorophenol | | 5.0 | | 170 | 5000 |
| 19. Chloroform | | 0.50 | 5.0 | 5.0 | 250 | 57. 2-Methylphenol | | 5.0 | | 170 | 5000 |
| 20. 1,1,1-Trichloroethane | | 0.50 | 5.0 | 5.0 | 250 | 58. 2,2'-Oxybis (1-chloropropane) | | 5.0 | | 170 | 5000 |
| 21. Cyclohexane | | 0.50 | 5.0 | 5.0 | 250 | 59. Acetophenone | | 5.0 | | 170 | 5000 |
| 22. Carbon tetrachloride | | 0.50 | 5.0 | 5.0 | 250 | 60. 4-Methylphenol | | 5.0 | | 170 | 5000 |
| 23. Benzene | | 0.50 | 5.0 | 5.0 | 250 | 61. N-Nitroso-di-n propylamine | | 5.0 | | 170 | 5000 |
| 24. 1,2-Dichloroethane | | 0.50 | 5.0 | 5.0 | 250 | 62. Hexachloroethane | | 5.0 | | 170 | 5000 |
| 25. 1,4-Dioxane | 2.0 | 20 | 100 | 100 | 5000 | 63. Nitrobenzene | | 5.0 | | 170 | 5000 |
| 26. Trichloroethene | | 0.50 | 5.0 | 5.0 | 250 | 64. Isophorone | | 5.0 | | 170 | 5000 |
| 27. Methylcyclohexane | | 0.50 | 5.0 | 5.0 | 250 | 65. 2-Nitrophenol | | 5.0 | | 170 | 5000 |
| 28. 1,2-Dichloropropane | | 0.50 | 5.0 | 5.0 | 250 | 66. 2,4-Dimethylphenol | | 5.0 | | 170 | 5000 |
| 29. Bromodichloromethane | | 0.50 | 5.0 | 5.0 | 250 | 67. Bis (2-chloroethoxy) methane | | 5.0 | | 170 | 5000 |
| 30. cis-1,3-Dichloropropene | | 0.50 | 5.0 | 5.0 | 250 | 68. 2,4-Dichlorophenol | | 5.0 | | 170 | 5000 |
| 31. 4-Methyl-2-pentanone | | 5.0 | 10 | 10 | 500 | 69. Naphthalene | 0.10 | 5.0 | 3.3 | 170 | 5000 |
| 32. Toluene | | 0.50 | 5.0 | 5.0 | 250 | 70. 4-Chloroaniline | | 5.0 | | 170 | 5000 |
| 33. trans-1,3-Dichloropropene | | 0.50 | 5.0 | 5.0 | 250 | 71. Hexachlorobutadiene | | 5.0 | | 170 | 5000 |
| 34. 1,1,2-Trichloroethane | | 0.50 | 5.0 | 5.0 | 250 | 72. Caprolactam | | 5.0 | | 170 | 5000 |
| 35. Tetrachloroethene | | 0.50 | 5.0 | 5.0 | 250 | 73. 4-Chloro-3-methylphenol | | 5.0 | | 170 | 5000 |
| 36. 2-Hexanone | | 5.0 | 10 | 10 | 500 | 74. 2-Methylnaphthalene | 0.10 | 5.0 | 3.3 | 170 | 5000 |
| 37. Dibromochloromethane | | 0.50 | 5.0 | 5.0 | 250 | 75. Hexachlorocyclopentadiene | | 5.0 | | 170 | 5000 |
| 38. 1,2-Dibromoethane | 0.050 | 0.50 | 5.0 | 5.0 | 250 | 76. 2,4,6-Trichlorophenol | | 5.0 | | 170 | 5000 |
| 39. Chlorobenzene | | 0.50 | 5.0 | 5.0 | 250 | 77. 2,4,5-Trichlorophenol | | 5.0 | | 170 | 5000 |

* For volatiles, quantitation limits for medium soils are approximately 50 times the quantitation limits for low soils. For semivolatile medium soils, quantitation limits are approximately 50 times the quantitation limits for low soils.

Table 1. Target Compound List (TCL) and Contract Required Quantitation Limits (CRLs) for SOM01.1* (Con't)

| Quantitation Limits | | | | | | Quantitation Limits | | | | | |
|---------------------------------|-------------------------|------------------|-------------------------|------------------|-------------------|--------------------------------|-------------------------|------------------|-------------------------|------------------|-------------------|
| | Low Water by SIM (µg/L) | Low Water (µg/L) | Low Soil by SIM (µg/kg) | Low Soil (µg/kg) | Med. Soil (µg/kg) | | Low Water by SIM (µg/L) | Low Water (µg/L) | Low Soil by SIM (µg/kg) | Low Soil (µg/kg) | Med. Soil (µg/kg) |
| SEMIVOLATILES (CON'T) | | | | | | SEMIVOLATILES (CON'T) | | | | | |
| 78. 1,1'-Biphenyl | | 5.0 | | 170 | 5000 | 115. Benzo(a)pyrene | 0.10 | 5.0 | 3.3 | 170 | 5000 |
| 79. 2-Chloronaphthalene | | 5.0 | | 170 | 5000 | 116. Indeno(1,2,3-cd)pyrene | 0.10 | 5.0 | 3.3 | 170 | 5000 |
| 80. 2-Nitroaniline | | 10 | | 330 | 10000 | 117. Dibenzo(a,h)anthracene | 0.10 | 5.0 | 3.3 | 170 | 5000 |
| 81. Dimethylphthalate | | 5.0 | | 170 | 5000 | 118. Benzo(g,h,i)perylene | 0.10 | 5.0 | 3.3 | 170 | 5000 |
| 82. 2,6-Dinitrotoluene | | 5.0 | | 170 | 5000 | 119. 2,3,4,6-Tetrachlorophenol | | 5.0 | | 170 | 5000 |
| 83. Acenaphthylene | 0.10 | 5.0 | 3.3 | 170 | 5000 | PESTICIDES | Water (µg/L) | | Soil (µg/kg) | | |
| 84. 3-Nitroaniline | | 10 | | 330 | 10000 | 120. alpha-BHC | 0.050 | | 1.7 | | |
| 85. Acenaphthene | 0.10 | 5.0 | 3.3 | 170 | 5000 | 121. beta-BHC | 0.050 | | 1.7 | | |
| 86. 2,4-Dinitrophenol | | 10 | | 330 | 10000 | 122. delta-BHC | 0.050 | | 1.7 | | |
| 87. 4-Nitrophenol | | 10 | | 330 | 10000 | 123. gamma-BHC (Lindane) | 0.050 | | 1.7 | | |
| 88. Dibenzofuran | | 5.0 | | 170 | 5000 | 124. Heptachlor | 0.050 | | 1.7 | | |
| 89. 2,4-Dinitrotoluene | | 5.0 | | 170 | 5000 | 125. Aldrin | 0.050 | | 1.7 | | |
| 90. Diethylphthalate | | 5.0 | | 170 | 5000 | 126. Heptachlor epoxide | 0.050 | | 1.7 | | |
| 91. Fluorene | 0.10 | 5.0 | 3.3 | 170 | 5000 | 127. Endosulfan I | 0.050 | | 1.7 | | |
| 92. 4-Chlorophenyl phenyl ether | | 5.0 | | 170 | 5000 | 128. Dieldrin | 0.10 | | 3.3 | | |
| 93. 4-Nitroaniline | | 10 | | 330 | 10000 | 129. 4,4'-DDE | 0.10 | | 3.3 | | |
| 94. 4,6-Dinitro-2-methylphenol | | 10 | | 330 | 10000 | 130. Endrin | 0.10 | | 3.3 | | |
| 95. N-Nitrosodiphenylamine | | 5.0 | | 170 | 5000 | 131. Endosulfan II | 0.10 | | 3.3 | | |
| 96. 1,2,4,5-Tetrachlorobenzene | | 5.0 | | 170 | 5000 | 132. 4,4'-DDD | 0.10 | | 3.3 | | |
| 97. 4-Bromophenyl phenyl ether | | 5.0 | | 170 | 5000 | 133. Endosulfan sulfate | 0.10 | | 3.3 | | |
| 98. Hexachlorobenzene | | 5.0 | | 170 | 5000 | 134. 4,4'-DDT | 0.10 | | 3.3 | | |
| 99. Atrazine | | 5.0 | | 170 | 5000 | 135. Methoxychlor | 0.50 | | 17 | | |
| 100. Pentachlorophenol | 0.20 | 10 | 6.7 | 330 | 10000 | 136. Endrin ketone | 0.10 | | 3.3 | | |
| 101. Phenanthrene | 0.10 | 5.0 | 3.3 | 170 | 5000 | 137. Endrin aldehyde | 0.10 | | 3.3 | | |
| 102. Anthracene | 0.10 | 5.0 | 3.3 | 170 | 5000 | 138. alpha-Chlordane | 0.050 | | 1.7 | | |
| 103. Carbazole | | 5.0 | | 170 | 5000 | 139. gamma-Chlordane | 0.050 | | 1.7 | | |
| 104. Di-n-butylphthalate | | 5.0 | | 170 | 5000 | 140. Toxaphene | 5.0 | | 170 | | |
| 105. Fluoranthene | 0.10 | 5.0 | 3.3 | 170 | 5000 | AROCLORS | Water (µg/L) | | Soil (µg/kg) | | |
| 106. Pyrene | 0.10 | 5.0 | 3.3 | 170 | 5000 | 141. Aroclor-1016 | 1.0 | | 33 | | |
| 107. Butylbenzylphthalate | | 5.0 | | 170 | 5000 | 142. Aroclor-1221 | 1.0 | | 33 | | |
| 108. 3,3'-Dichlorobenzidine | | 5.0 | | 170 | 5000 | 143. Aroclor-1232 | 1.0 | | 33 | | |
| 109. Benzo(a)anthracene | 0.10 | 5.0 | 3.3 | 170 | 5000 | 144. Aroclor-1242 | 1.0 | | 33 | | |
| 110. Chrysene | 0.10 | 5.0 | 3.3 | 170 | 5000 | 145. Aroclor-1248 | 1.0 | | 33 | | |
| 111. Bis(2-ethylhexyl)phthalate | | 5.0 | | 170 | 5000 | 146. Aroclor-1254 | 1.0 | | 33 | | |
| 112. Di-n-octylphthalate | | 5.0 | | 170 | 5000 | 147. Aroclor-1260 | 1.0 | | 33 | | |
| 113. Benzo(b)fluoranthene | 0.10 | 5.0 | 3.3 | 170 | 5000 | 148. Aroclor-1262 | 1.0 | | 33 | | |
| 114. Benzo(k)fluoranthene | 0.10 | 5.0 | 3.3 | 170 | 5000 | 149. Aroclor-1268 | 1.0 | | 33 | | |

* For volatiles, quantitation limits for medium soils are approximately 50 times the quantitation limits for low soils. For semivolatile medium soils, quantitation limits are approximately 30 times the quantitation limits for low soils.

Table 1. Inorganic Target Analyte List and Contract Required Quantitation Limits (CRQLs)

| <u>Analyte</u> | <u>ICP-AES CRQL for Water (µg/L)</u> | <u>ICP-AES CRQL for Soil (mg/kg)</u> | <u>ICP-MS CRQL for Water (µg/L)</u> |
|----------------|--|--|---|
| 1. Aluminum | 200 | 20 | -- |
| 2. Antimony | 60 | 6 | 2 |
| 3. Arsenic | 10 | 1 | 1 |
| 4. Barium | 200 | 20 | 10 |
| 5. Beryllium | 5 | 0.5 | 1 |
| 6. Cadmium | 5 | 0.5 | 1 |
| 7. Calcium | 5000 | 500 | -- |
| 8. Chromium | 10 | 1 | 2 |
| 9. Cobalt | 50 | 5 | 1 |
| 10. Copper | 25 | 2.5 | 2 |
| 11. Iron | 100 | 10 | -- |
| 12. Lead | 10 | 1 | 1 |
| 13. Magnesium | 5000 | 500 | -- |
| 14. Manganese | 15 | 1.5 | 1 |
| 15. Mercury | 0.2 | 0.1 | -- |
| 16. Nickel | 40 | 4 | 1 |
| 17. Potassium | 5000 | 500 | -- |
| 18. Selenium | 35 | 3.5 | 5 |
| 19. Silver | 10 | 1 | 1 |
| 20. Sodium | 5000 | 500 | -- |
| 21. Thallium | 25 | 2.5 | 1 |
| 22. Vanadium | 50 | 5 | 5 |
| 23. Zinc | 60 | 6 | 2 |
| 24. Cyanide | 10 | 2.5 | -- |

Appendix E

Analytical Results – Contract Laboratory Program

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V
SUPERFUND DIVISION

DATE:

SUBJECT: Review of Data
Received for Review on: 10 April 2012

FROM: Timothy Prendiville, Supervisor (SR-6J)
Superfund Contract Management Section

TO: Data User: OEPA
Email Address: Victoria.sigler@epa.state.oh.us;
wendy.vorwerk@epa.state.oh.us

Level 3 Data Validation

We have reviewed the data for the following case:

SITE Name: Custom Cleaners (OH)

Case Number: 42381

SDG Number: E5L92

Number and Type of Samples: 5 soils/ 1 water (Volatiles)

Sample Numbers: E5L92 – E5L97

Laboratory: ALS Lab Group - DATAC

Hrs for Review:

Following are our findings:

CC: Howard Pham
Region 5 TPO
Mail Code: SA-5J

Case Number: 42381
Site Name: Custom Cleaners (OH)

Page 2 of 7
SDG Number: E5L92
Laboratory: DATAC

Below is a summary of the out-of-control audits and the possible effects on the data for this case:

One (1) preserved water and five (5) soil samples labeled E5L92 through E5L97 were shipped to ALS Laboratory Group - DATAC located in Salt Lake City, UT. One (1) water sample, E5L96, was collected on March 23, 2012 and the five (5) soil samples were collected on March 26, 2012. All samples arrived intact on March 27, 2012 with a shipping temperature of 8 °C, outside the preferred QC range of 2 – 6 °C.

All samples were analyzed according to CLP SOW SOM01.2 and reviewed according to the NFG for SOM01.2 and the SOP for ESAT 5/TechLaw Validation of Contract Laboratory Program Organic Data (Version 2.6).

Sample E5L92 was designated by the samplers to be used for laboratory QC, i.e. MS/MSD analyses.

Sample E5L96 was identified as a trip blank. No other samples were identified as field blanks or field duplicates.

1. HOLDING TIME

No problems were found.

2. GC/MS TUNING AND GC INSTRUMENT PERFORMANCE

No problems were found.

3. CALIBRATION

The following volatile samples are associated with an initial calibration and continuing CCVs with relative response factors (RRFs) outside criteria. The compound was not detected in any of the samples. The non-detected compound is qualified "R".

E5L92, E5L92MS, E5L92MSD, E5L93, E5L93RE, E5L94, E5L94RE, E5L95,
E5L95RE, E5L97, VBLKS1, VHBLKS1
1,4-Dioxane

The following volatile samples are associated with an initial calibration and continuing CCVs in which a DMC did not meet relative response factor (RRF) criteria. Detected and non-detected compounds are not qualified.

E5L92, E5L92MS, E5L92MSD, E5L93, E5L93RE, E5L94, E5L94RE, E5L95,
E5L95RE, E5L97, VBLKS1, VHBLKS1
1,4-Dioxane-d8

4. BLANKS

The following volatile samples have common contaminant analyte concentrations reported less than 2x the CRQL. The associated method blank common contaminant concentration is less than 2x the concentration criteria. Detected compounds are qualified "U". Non-detected compounds are not qualified. Reported sample concentrations have been elevated the 2x the CRQL.

E5L92, E5L92MS, E5L92MSD, E5L93, E5L93RE, E5L94, E5L94RE, E5L95,
E5L95RE, E5L97
Acetone

E5L92, E5L92MS, E5L93, E5L93RE, E5L94, E5L95, E5L97, VHBLKS1
Methylene chloride

The following volatile samples have analyte concentrations reported less than the CRQL. The associated storage blank concentration is less than the concentration criteria. Detected compounds are qualified "U". Non-detected compounds are not qualified. Reported sample

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Laboratory: DATAC

concentrations have been elevated the CRQL. Some non-detected compounds in samples E5L94RE and E5L95RE are qualified "R" because the internal standard's criteria for the samples did not meet the QC criteria.

E5L92, E5L92MS, E5L92MSD, E5L93, E5L93RE, E5L94, E5L94RE, E5L95,
E5L95RE, E5L97
Trichlorofluoromethane, Cyclohexane

E5L92, E5L93, E5L93RE, E5L94, E5L94RE, E5L95, E5L95RE, E5L97
Toluene

5. DEUTERATED MONITORING COMPOUND AND SURROGATE RECOVERY

The following volatile samples have DMC/SMC recoveries above the upper limit of the criteria window. Detected compounds are qualified "J". Non-detected compounds are not qualified. Some non-detected compounds in samples E5L94RE and E5L95RE are qualified "R" because the internal standard's criteria for the samples did not meet the QC criteria.

E5L92, E5L92MS, E5L92MSD, E5L93, E5L93RE, E5L94, E5L95
Benzene

E5L94RE, E5L95RE
Cyclohexane, Benzene, Trichloroethene, Methylcyclohexane, 1,2-Dichloropropane,
Bromodichloromethane, Toluene, Tetrachloroethene, Ethylbenzene, o-Xylene,
m,p-Xylene, Styrene, Isopropylbenzene

6A. MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Sample E5L92 was designated by the samplers to be used for laboratory QC, i.e. matrix spike / matrix spike duplicate analyses.

No problems were found.

6B. LABORATORY CONTROL SAMPLE

Not applicable to these analyses.

7. FIELD BLANK AND FIELD DUPLICATE

Sample E5L96 was identified as a trip blank. Results are summarized in the following table:

| | |
|--------------------|-------|
| Trip Blank | E5L96 |
| Volatile analytes: | µg/L |
| Chloromethane | 0.11 |
| Acetone | 9.2 |
| Toluene | 0.13 |
| Tetrachloroethene | 0.12 |

No other samples were identified as field blanks or field duplicates.

Results are not qualified based upon the results of the field duplicates.

8. INTERNAL STANDARDS

The following volatile samples have internal standard area counts that are outside the lower limit of primary criteria. Detected compounds are qualified "J". Non-detected compounds are qualified "R".

E5L92, E5L92MS, E5L92MSD, E5L93, E5L93RE, E5L94, E5L95
Bromoform, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, 1,2-Dichlorobenzene,
1,2-Dibromo-3-chloropropane, 1,2,4-Trichlorobenzene, 1,2,3-Trichlorobenzene

E5L94RE, E5L95RE
1,1,1-Trichloroethane, Cyclohexane, Carbon tetrachloride, Benzene, Trichloroethene,
Methylcyclohexane, 1,2-Dichloropropane, Bromodichloromethane,
cis-1,3-Dichloropropene, 4-Methyl-2-pentanone, Toluene, trans-1,3-Dichloropropene,
1,1,2-Trichloroethane, Tetrachloroethene, 2-Hexanone, Dibromochloromethane,
1,2-Dibromoethane, Chlorobenzene, Ethylbenzene, o-Xylene, m,p-Xylene, Styrene,
Bromoform, Isopropylbenzene, 1,1,2,2-Tetrachloroethane, 1,3-Dichlorobenzene,
1,4-Dichlorobenzene, 1,2-Dichlorobenzene, 1,2-Dibromo-3-chloropropane,
1,2,4-Trichlorobenzene, 1,2,3-Trichlorobenzene

9. COMPOUND IDENTIFICATION

After reviewing the mass spectra and chromatograms it appears that all VOA compounds were properly identified.

10. COMPOUND QUANTITATION AND REPORTED DETECTION LIMITS

The following trace volatile samples have analyte concentrations below the quantitation limit (CRQL). Detected compounds are qualified "J".

E5L96
Chloromethane, Toluene, Tetrachloroethene

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A library search indicates a match below 85% for a TIC compound in the following trace volatile sample. Detected compounds are qualified "J".

VHBLKT1
Unknown Formic acid

The following volatile samples have analyte concentrations below the quantitation limit (CRQL). Detected compounds are qualified "J".

E5L92, E5L92MSD, E5L94RE
m,p-Xylene, Styrene

E5L92MS
Styrene

E5L93, E5L94
M,p-Xylene

E5L93RE
Chlorobenzene

E5L95
Carbon disulfide, Styrene

E5L95RE
Carbon disulfide, m,p-Xylene, Styrene

VBLKS1
Acetone, Methylene chloride, 1,2,4-Trichlorobenzene, 1,2,3-Trichlorobenzene

VHBLKS1
Trichlorofluoromethane, Cyclohexane, Toluene

11. SYSTEM PERFORMANCE

GC/MS baseline indicated acceptable performance.

12. ADDITIONAL INFORMATION

None.

CADRE Data Qualifier Sheet

| <u>Qualifiers</u> | <u>Data Qualifier Definitions</u> |
|-------------------|---|
| U | The analyte was analyzed for, but was not detected above the reported sample quantitation limit. |
| J | The analyte was positively identified; the associated numerical value is an approximate concentration of the analyte in the sample. |
| UJ | The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the action limit of quantitation necessary to accurately and precisely measure the analyte in the sample. |
| N | The analysis indicates the presence of an analyte for which there is presumptive evidence to make a tentative identification. |
| NJ | The analysis indicates the presence of an analyte for which there is presumptive evidence to make a tentative identification and the associated numerical value represents its approximate concentration. |
| R | The data are unusable. (The compound may or may not be present.) |

Sample Summary Report

| | | | | | | | |
|------------------|--------|-----------|-------------|--------------|----------|--------------|----------|
| Case No: | 42381 | Contract: | EPW11037 | SDG No: | E5L92 | Lab Code: | DATA C |
| Sample Number: | E5L92 | Method: | VOA_Low_Med | Matrix: | Soil | MA Number: | DEFAULT |
| Sample Location: | SO-1 | pH: | | Sample Date: | 03262012 | Sample Time: | 09:50:00 |
| % Moisture : | 17.162 | | | % Solids : | | | |

| Analyte Name | Result | Units | Dilution Factor | Lab Flag | Validation | Reportable | Validation Level |
|---------------------------------------|--------|-------|-----------------|----------|------------|------------|------------------|
| Dichlorodifluoro methane | 6.5 | ug/kg | 1.0 | U | U | Yes | |
| Chloromethane | 6.5 | ug/kg | 1.0 | U | U | Yes | |
| Vinyl chloride | 6.5 | ug/kg | 1.0 | U | U | Yes | |
| Bromomethane | 6.5 | ug/kg | 1.0 | U | U | Yes | |
| Chloroethane | 6.5 | ug/kg | 1.0 | U | U | Yes | |
| Trichlorofluorom ethane | 6.5 | ug/kg | 1.0 | J | U | Yes | |
| 1,1-Dichloroethene | 6.5 | ug/kg | 1.0 | U | U | Yes | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 6.5 | ug/kg | 1.0 | U | U | Yes | |
| Acetone | 26 | ug/kg | 1.0 | B | U | Yes | |
| Carbon disulfide | 6.5 | ug/kg | 1.0 | U | U | Yes | |
| Methyl acetate | 6.5 | ug/kg | 1.0 | U | U | Yes | |
| Methylene chloride | 13 | ug/kg | 1.0 | JB | U | Yes | |
| trans-1,2-Dichloroethene | 6.5 | ug/kg | 1.0 | U | U | Yes | |
| Methyl tert-butyl ether | 6.5 | ug/kg | 1.0 | U | U | Yes | |
| 1,1-Dichloroethane | 6.5 | ug/kg | 1.0 | U | U | Yes | |
| cis-1,2-Dichloroethene | 6.5 | ug/kg | 1.0 | U | U | Yes | |
| 2-Butanone | 13 | ug/kg | 1.0 | U | U | Yes | |
| Bromochloromet hane | 6.5 | ug/kg | 1.0 | U | U | Yes | |
| Chloroform | 6.5 | ug/kg | 1.0 | U | U | Yes | |
| 1,1,1-Trichloroethane | 6.5 | ug/kg | 1.0 | U | U | Yes | |
| Cyclohexane | 6.5 | ug/kg | 1.0 | J | U | Yes | |
| Carbon tetrachloride | 6.5 | ug/kg | 1.0 | U | U | Yes | |
| Benzene | 6.5 | ug/kg | 1.0 | U | U | Yes | |
| 1,2-Dichloroethane | 6.5 | ug/kg | 1.0 | U | U | Yes | |
| 1,4-Dioxane | 130 | ug/kg | 1.0 | U | R | Yes | |
| Trichloroethene | 6.5 | ug/kg | 1.0 | U | U | Yes | |

| Analyte Name | Result | Units | Dilution Factor | Lab Flag | Validation | Reportable | Validation Level |
|-----------------------------|--------|-------|-----------------|----------|------------|------------|------------------|
| Methylcyclohexane | 6.5 | ug/kg | 1.0 | U | U | Yes | |
| 1,2-Dichloropropane | 6.5 | ug/kg | 1.0 | U | U | Yes | |
| Bromodichloromethane | 6.5 | ug/kg | 1.0 | U | U | Yes | |
| cis-1,3-Dichloropropene | 6.5 | ug/kg | 1.0 | U | U | Yes | |
| 4-Methyl-2-Pentanone | 13 | ug/kg | 1.0 | U | U | Yes | |
| Toluene | 6.5 | ug/kg | 1.0 | J | U | Yes | |
| trans-1,3-Dichloropropene | 6.5 | ug/kg | 1.0 | U | U | Yes | |
| 1,1,2-Trichloroethane | 6.5 | ug/kg | 1.0 | U | U | Yes | |
| Tetrachloroethene | 6.5 | ug/kg | 1.0 | U | U | Yes | |
| 2-Hexanone | 13 | ug/kg | 1.0 | U | U | Yes | |
| Dibromochloromethane | 6.5 | ug/kg | 1.0 | U | U | Yes | |
| 1,2-Dibromoethane | 6.5 | ug/kg | 1.0 | U | U | Yes | |
| Chlorobenzene | 6.5 | ug/kg | 1.0 | U | U | Yes | |
| Ethylbenzene | 6.5 | ug/kg | 1.0 | U | U | Yes | |
| o-Xylene | 6.5 | ug/kg | 1.0 | U | U | Yes | |
| m,p-Xylene | 0.32 | ug/kg | 1.0 | J | J | Yes | |
| Styrene | 0.22 | ug/kg | 1.0 | J | J | Yes | |
| Bromoform | 6.5 | ug/kg | 1.0 | U | R | Yes | |
| Isopropylbenzene | 6.5 | ug/kg | 1.0 | U | U | Yes | |
| 1,1,2,2-Tetrachloroethane | 6.5 | ug/kg | 1.0 | U | U | Yes | |
| 1,3-Dichlorobenzene | 6.5 | ug/kg | 1.0 | U | R | Yes | |
| 1,4-Dichlorobenzene | 6.5 | ug/kg | 1.0 | U | R | Yes | |
| 1,2-Dichlorobenzene | 6.5 | ug/kg | 1.0 | U | R | Yes | |
| 1,2-Dibromo-3-chloropropane | 6.5 | ug/kg | 1.0 | U | R | Yes | |
| 1,2,4-Trichlorobenzene | 6.5 | ug/kg | 1.0 | U | R | Yes | |
| 1,2,3-Trichlorobenzene | 6.5 | ug/kg | 1.0 | U | R | Yes | |

| | | | | | | | |
|------------------|---------|-----------|-------------|--------------|----------|--------------|----------|
| Case No: | 42381 | Contract: | EPW11037 | SDG No: | E5L92 | Lab Code: | DATA C |
| Sample Number: | E5L92MS | Method: | VOA_Low_Med | Matrix: | Soil | MA Number: | DEFAULT |
| Sample Location: | SO-1 | pH: | | Sample Date: | 03262012 | Sample Time: | 09:50:00 |
| % Moisture : | 17.162 | | | % Solids : | | | |

| Analyte Name | Result | Units | Dilution Factor | Lab Flag | Validation | Reportable | Validation Level |
|---------------------------------------|--------|-------|-----------------|----------|------------|------------|------------------|
| 1,1-Dichloroethene | 78 | ug/kg | 1.0 | | | Yes | |
| Dichlorodifluoro methane | 6.7 | ug/kg | 1.0 | U | U | Yes | |
| Chloromethane | 6.7 | ug/kg | 1.0 | U | U | Yes | |
| Benzene | 89 | ug/kg | 1.0 | | J | Yes | |
| Vinyl chloride | 6.7 | ug/kg | 1.0 | U | U | Yes | |
| Trichloroethene | 85 | ug/kg | 1.0 | | | Yes | |
| Toluene | 83 | ug/kg | 1.0 | | | Yes | |
| Bromomethane | 6.7 | ug/kg | 1.0 | U | U | Yes | |
| Chloroethane | 6.7 | ug/kg | 1.0 | U | U | Yes | |
| Chlorobenzene | 76 | ug/kg | 1.0 | | | Yes | |
| Trichlorofluorom ethane | 6.7 | ug/kg | 1.0 | J | U | Yes | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 6.7 | ug/kg | 1.0 | U | U | Yes | |
| Acetone | 26 | ug/kg | 1.0 | B | U | Yes | |
| Carbon disulfide | 6.7 | ug/kg | 1.0 | U | U | Yes | |
| Methyl acetate | 6.7 | ug/kg | 1.0 | U | U | Yes | |
| Methylene chloride | 13 | ug/kg | 1.0 | JB | U | Yes | |
| trans-1,2-Dichloroethene | 6.7 | ug/kg | 1.0 | U | U | Yes | |
| Methyl tert-butyl ether | 6.7 | ug/kg | 1.0 | U | U | Yes | |
| 1,1-Dichloroethane | 6.7 | ug/kg | 1.0 | U | U | Yes | |
| cis-1,2-Dichloroethene | 6.7 | ug/kg | 1.0 | U | U | Yes | |
| 2-Butanone | 13 | ug/kg | 1.0 | U | U | Yes | |
| Bromochloromet hane | 6.7 | ug/kg | 1.0 | U | U | Yes | |
| Chloroform | 6.7 | ug/kg | 1.0 | U | U | Yes | |
| 1,1,1-Trichloroethane | 6.7 | ug/kg | 1.0 | U | U | Yes | |
| Cyclohexane | 6.7 | ug/kg | 1.0 | J | U | Yes | |
| Carbon tetrachloride | 6.7 | ug/kg | 1.0 | U | U | Yes | |
| 1,2-Dichloroethane | 6.7 | ug/kg | 1.0 | U | U | Yes | |
| 1,4-Dioxane | 130 | ug/kg | 1.0 | U | R | Yes | |
| Methylcyclohexa ne | 6.7 | ug/kg | 1.0 | U | U | Yes | |

| Analyte Name | Result | Units | Dilution Factor | Lab Flag | Validation | Reportable | Validation Level |
|-----------------------------|--------|-------|-----------------|----------|------------|------------|------------------|
| 1,2-Dichloropropane | 6.7 | ug/kg | 1.0 | U | U | Yes | |
| Bromodichloromethane | 6.7 | ug/kg | 1.0 | U | U | Yes | |
| cis-1,3-Dichloropropene | 6.7 | ug/kg | 1.0 | U | U | Yes | |
| 4-Methyl-2-Pentanone | 13 | ug/kg | 1.0 | U | U | Yes | |
| trans-1,3-Dichloropropene | 6.7 | ug/kg | 1.0 | U | U | Yes | |
| 1,1,2-Trichloroethane | 6.7 | ug/kg | 1.0 | U | U | Yes | |
| Tetrachloroethene | 6.7 | ug/kg | 1.0 | U | U | Yes | |
| 2-Hexanone | 13 | ug/kg | 1.0 | U | U | Yes | |
| Dibromochloromethane | 6.7 | ug/kg | 1.0 | U | U | Yes | |
| 1,2-Dibromoethane | 6.7 | ug/kg | 1.0 | U | U | Yes | |
| Ethylbenzene | 6.7 | ug/kg | 1.0 | U | U | Yes | |
| o-Xylene | 6.7 | ug/kg | 1.0 | U | U | Yes | |
| m,p-Xylene | 6.7 | ug/kg | 1.0 | U | U | Yes | |
| Styrene | 0.24 | ug/kg | 1.0 | J | J | Yes | |
| Bromoform | 6.7 | ug/kg | 1.0 | U | R | Yes | |
| Isopropylbenzene | 6.7 | ug/kg | 1.0 | U | U | Yes | |
| 1,1,2,2-Tetrachloroethane | 6.7 | ug/kg | 1.0 | U | U | Yes | |
| 1,3-Dichlorobenzene | 6.7 | ug/kg | 1.0 | U | R | Yes | |
| 1,4-Dichlorobenzene | 6.7 | ug/kg | 1.0 | U | R | Yes | |
| 1,2-Dichlorobenzene | 6.7 | ug/kg | 1.0 | U | R | Yes | |
| 1,2-Dibromo-3-chloropropane | 6.7 | ug/kg | 1.0 | U | R | Yes | |
| 1,2,4-Trichlorobenzene | 6.7 | ug/kg | 1.0 | U | R | Yes | |
| 1,2,3-Trichlorobenzene | 6.7 | ug/kg | 1.0 | U | R | Yes | |

| | | | | | | | |
|------------------|----------|-----------|-------------|--------------|----------|--------------|----------|
| Case No: | 42381 | Contract: | EPW11037 | SDG No: | E5L92 | Lab Code: | DATA |
| Sample Number: | E5L92MSD | Method: | VOA_Low_Med | Matrix: | Soil | MA Number: | DEFAULT |
| Sample Location: | SO-1 | pH: | | Sample Date: | 03262012 | Sample Time: | 09:50:00 |
| % Moisture : | 17.162 | | | % Solids : | | | |

| Analyte Name | Result | Units | Dilution Factor | Lab Flag | Validation | Reportable | Validation Level |
|---------------------------------------|--------|-------|-----------------|----------|------------|------------|------------------|
| Dichlorodifluoro methane | 6.7 | ug/kg | 1.0 | U | U | Yes | |
| 1,1-Dichloroethene | 76 | ug/kg | 1.0 | | | Yes | |
| Chloromethane | 6.7 | ug/kg | 1.0 | U | U | Yes | |
| Benzene | 87 | ug/kg | 1.0 | | J | Yes | |
| Vinyl chloride | 6.7 | ug/kg | 1.0 | U | U | Yes | |
| Trichloroethene | 84 | ug/kg | 1.0 | | | Yes | |
| Toluene | 80 | ug/kg | 1.0 | | | Yes | |
| Bromomethane | 6.7 | ug/kg | 1.0 | U | U | Yes | |
| Chlorobenzene | 69 | ug/kg | 1.0 | | | Yes | |
| Chloroethane | 6.7 | ug/kg | 1.0 | U | U | Yes | |
| Trichlorofluorom ethane | 6.7 | ug/kg | 1.0 | J | U | Yes | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 6.7 | ug/kg | 1.0 | U | U | Yes | |
| Acetone | 26 | ug/kg | 1.0 | B | U | Yes | |
| Carbon disulfide | 6.7 | ug/kg | 1.0 | U | U | Yes | |
| Methyl acetate | 6.7 | ug/kg | 1.0 | U | U | Yes | |
| Methylene chloride | 6.7 | ug/kg | 1.0 | U | U | Yes | |
| trans-1,2-Dichloroethene | 6.7 | ug/kg | 1.0 | U | U | Yes | |
| Methyl tert-butyl ether | 6.7 | ug/kg | 1.0 | U | U | Yes | |
| 1,1-Dichloroethane | 6.7 | ug/kg | 1.0 | U | U | Yes | |
| cis-1,2-Dichloroethene | 6.7 | ug/kg | 1.0 | U | U | Yes | |
| 2-Butanone | 13 | ug/kg | 1.0 | U | U | Yes | |
| Bromochloromet hane | 6.7 | ug/kg | 1.0 | U | U | Yes | |
| Chloroform | 6.7 | ug/kg | 1.0 | U | U | Yes | |
| 1,1,1-Trichloroethane | 6.7 | ug/kg | 1.0 | U | U | Yes | |
| Cyclohexane | 6.7 | ug/kg | 1.0 | J | U | Yes | |
| Carbon tetrachloride | 6.7 | ug/kg | 1.0 | U | U | Yes | |
| 1,2-Dichloroethane | 6.7 | ug/kg | 1.0 | U | U | Yes | |
| 1,4-Dioxane | 130 | ug/kg | 1.0 | U | R | Yes | |
| Methylcyclohexa ne | 6.7 | ug/kg | 1.0 | U | U | Yes | |

| Analyte Name | Result | Units | Dilution Factor | Lab Flag | Validation | Reportable | Validation Level |
|-----------------------------|--------|-------|-----------------|----------|------------|------------|------------------|
| 1,2-Dichloropropane | 6.7 | ug/kg | 1.0 | U | U | Yes | |
| Bromodichloromethane | 6.7 | ug/kg | 1.0 | U | U | Yes | |
| cis-1,3-Dichloropropene | 6.7 | ug/kg | 1.0 | U | U | Yes | |
| 4-Methyl-2-Pentanone | 13 | ug/kg | 1.0 | U | U | Yes | |
| trans-1,3-Dichloropropene | 6.7 | ug/kg | 1.0 | U | U | Yes | |
| 1,1,2-Trichloroethane | 6.7 | ug/kg | 1.0 | U | U | Yes | |
| Tetrachloroethene | 6.7 | ug/kg | 1.0 | U | U | Yes | |
| 2-Hexanone | 13 | ug/kg | 1.0 | U | U | Yes | |
| Dibromochloromethane | 6.7 | ug/kg | 1.0 | U | U | Yes | |
| 1,2-Dibromoethane | 6.7 | ug/kg | 1.0 | U | U | Yes | |
| Ethylbenzene | 6.7 | ug/kg | 1.0 | U | U | Yes | |
| o-Xylene | 6.7 | ug/kg | 1.0 | U | U | Yes | |
| m,p-Xylene | 0.21 | ug/kg | 1.0 | J | J | Yes | |
| Styrene | 0.21 | ug/kg | 1.0 | J | J | Yes | |
| Bromoform | 6.7 | ug/kg | 1.0 | U | R | Yes | |
| Isopropylbenzene | 6.7 | ug/kg | 1.0 | U | U | Yes | |
| 1,1,2,2-Tetrachloroethane | 6.7 | ug/kg | 1.0 | U | U | Yes | |
| 1,3-Dichlorobenzene | 6.7 | ug/kg | 1.0 | U | R | Yes | |
| 1,4-Dichlorobenzene | 6.7 | ug/kg | 1.0 | U | R | Yes | |
| 1,2-Dichlorobenzene | 6.7 | ug/kg | 1.0 | U | R | Yes | |
| 1,2-Dibromo-3-chloropropane | 6.7 | ug/kg | 1.0 | U | R | Yes | |
| 1,2,4-Trichlorobenzene | 6.7 | ug/kg | 1.0 | U | R | Yes | |
| 1,2,3-Trichlorobenzene | 6.7 | ug/kg | 1.0 | U | R | Yes | |

| | | | | | | | |
|------------------|--------|-----------|-------------|--------------|----------|--------------|----------|
| Case No: | 42381 | Contract: | EPW11037 | SDG No: | E5L92 | Lab Code: | DATAAC |
| Sample Number: | E5L93 | Method: | VOA_Low_Med | Matrix: | Soil | MA Number: | DEFAULT |
| Sample Location: | SO-2 | pH: | | Sample Date: | 03262012 | Sample Time: | 11:30:00 |
| % Moisture : | 11.777 | | | % Solids : | | | |

| Analyte Name | Result | Units | Dilution Factor | Lab Flag | Validation | Reportable | Validation Level |
|---------------------------------------|--------|-------|-----------------|----------|------------|------------|------------------|
| Dichlorodifluoro methane | 4.7 | ug/kg | 1.0 | U | U | Yes | |
| Chloromethane | 4.7 | ug/kg | 1.0 | U | U | Yes | |
| Vinyl chloride | 4.7 | ug/kg | 1.0 | U | U | Yes | |
| Bromomethane | 4.7 | ug/kg | 1.0 | U | U | Yes | |
| Chloroethane | 4.7 | ug/kg | 1.0 | U | U | Yes | |
| Trichlorofluorom ethane | 4.7 | ug/kg | 1.0 | J | U | Yes | |
| 1,1-Dichloroethene | 4.7 | ug/kg | 1.0 | U | U | Yes | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 4.7 | ug/kg | 1.0 | U | U | Yes | |
| Acetone | 19 | ug/kg | 1.0 | JB | U | Yes | |
| Carbon disulfide | 4.7 | ug/kg | 1.0 | U | U | Yes | |
| Methyl acetate | 4.7 | ug/kg | 1.0 | U | U | Yes | |
| Methylene chloride | 9.3 | ug/kg | 1.0 | JB | U | Yes | |
| trans-1,2-Dichloroethene | 4.7 | ug/kg | 1.0 | U | U | Yes | |
| Methyl tert-butyl ether | 4.7 | ug/kg | 1.0 | U | U | Yes | |
| 1,1-Dichloroethane | 4.7 | ug/kg | 1.0 | U | U | Yes | |
| cis-1,2-Dichloroethene | 4.7 | ug/kg | 1.0 | U | U | Yes | |
| 2-Butanone | 9.3 | ug/kg | 1.0 | U | U | Yes | |
| Bromochloromet hane | 4.7 | ug/kg | 1.0 | U | U | Yes | |
| Chloroform | 4.7 | ug/kg | 1.0 | U | U | Yes | |
| 1,1,1-Trichloroethane | 4.7 | ug/kg | 1.0 | U | U | Yes | |
| Cyclohexane | 4.7 | ug/kg | 1.0 | J | U | Yes | |
| Carbon tetrachloride | 4.7 | ug/kg | 1.0 | U | U | Yes | |
| Benzene | 4.7 | ug/kg | 1.0 | U | U | Yes | |
| 1,2-Dichloroethane | 4.7 | ug/kg | 1.0 | U | U | Yes | |
| 1,4-Dioxane | 93 | ug/kg | 1.0 | U | R | Yes | |
| Trichloroethene | 4.7 | ug/kg | 1.0 | U | U | Yes | |
| Methylcyclohexa ne | 4.7 | ug/kg | 1.0 | U | U | Yes | |
| 1,2-Dichloropropane | 4.7 | ug/kg | 1.0 | U | U | Yes | |
| Bromodichlorom | 4.7 | ug/kg | 1.0 | U | U | Yes | |

| Analyte Name | Result | Units | Dilution Factor | Lab Flag | Validation | Reportable | Validation Level |
|-----------------------------|--------|-------|-----------------|----------|------------|------------|------------------|
| ethane | 4.7 | ug/kg | 1.0 | U | U | Yes | |
| cis-1,3-Dichloropropene | 4.7 | ug/kg | 1.0 | U | U | Yes | |
| 4-Methyl-2-Pentanone | 9.3 | ug/kg | 1.0 | U | U | Yes | |
| Toluene | 4.7 | ug/kg | 1.0 | J | U | Yes | |
| trans-1,3-Dichloropropene | 4.7 | ug/kg | 1.0 | U | U | Yes | |
| 1,1,2-Trichloroethane | 4.7 | ug/kg | 1.0 | U | U | Yes | |
| Tetrachloroethene | 4.7 | ug/kg | 1.0 | U | U | Yes | |
| 2-Hexanone | 9.3 | ug/kg | 1.0 | U | U | Yes | |
| Dibromochloromethane | 4.7 | ug/kg | 1.0 | U | U | Yes | |
| 1,2-Dibromoethane | 4.7 | ug/kg | 1.0 | U | U | Yes | |
| Chlorobenzene | 4.7 | ug/kg | 1.0 | U | U | Yes | |
| Ethylbenzene | 4.7 | ug/kg | 1.0 | U | U | Yes | |
| o-Xylene | 4.7 | ug/kg | 1.0 | U | U | Yes | |
| m,p-Xylene | 0.14 | ug/kg | 1.0 | J | J | Yes | |
| Styrene | 4.7 | ug/kg | 1.0 | U | U | Yes | |
| Bromoform | 4.7 | ug/kg | 1.0 | U | R | Yes | |
| Isopropylbenzene | 4.7 | ug/kg | 1.0 | U | U | Yes | |
| 1,1,2,2-Tetrachloroethane | 4.7 | ug/kg | 1.0 | U | U | Yes | |
| 1,3-Dichlorobenzene | 4.7 | ug/kg | 1.0 | U | R | Yes | |
| 1,4-Dichlorobenzene | 4.7 | ug/kg | 1.0 | U | R | Yes | |
| 1,2-Dichlorobenzene | 4.7 | ug/kg | 1.0 | U | R | Yes | |
| 1,2-Dibromo-3-chloropropane | 4.7 | ug/kg | 1.0 | U | R | Yes | |
| 1,2,4-Trichlorobenzene | 4.7 | ug/kg | 1.0 | U | R | Yes | |
| 1,2,3-Trichlorobenzene | 4.7 | ug/kg | 1.0 | U | R | Yes | |

| | | | | | | | |
|------------------|---------|-----------|-------------|--------------|----------|--------------|----------|
| Case No: | 42381 | Contract: | EPW11037 | SDG No: | E5L92 | Lab Code: | DATAAC |
| Sample Number: | E5L93RE | Method: | VOA_Low_Med | Matrix: | Soil | MA Number: | DEFAULT |
| Sample Location: | SO-2 | pH: | | Sample Date: | 03262012 | Sample Time: | 11:30:00 |
| % Moisture : | 11.777 | | | % Solids : | | | |

| Analyte Name | Result | Units | Dilution Factor | Lab Flag | Validation | Reportable | Validation Level |
|---------------------------------------|--------|-------|-----------------|----------|------------|------------|------------------|
| Dichlorodifluoro methane | 4.4 | ug/kg | 1.0 | U | U | Yes | |
| Chloromethane | 4.4 | ug/kg | 1.0 | U | U | Yes | |
| Vinyl chloride | 4.4 | ug/kg | 1.0 | U | U | Yes | |
| Bromomethane | 4.4 | ug/kg | 1.0 | U | U | Yes | |
| Chloroethane | 4.4 | ug/kg | 1.0 | U | U | Yes | |
| Trichlorofluorom ethane | 4.4 | ug/kg | 1.0 | J | U | Yes | |
| 1,1-Dichloroethene | 4.4 | ug/kg | 1.0 | U | U | Yes | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 4.4 | ug/kg | 1.0 | U | U | Yes | |
| Acetone | 18 | ug/kg | 1.0 | JB | U | Yes | |
| Carbon disulfide | 4.4 | ug/kg | 1.0 | U | U | Yes | |
| Methyl acetate | 4.4 | ug/kg | 1.0 | U | U | Yes | |
| Methylene chloride | 8.8 | ug/kg | 1.0 | JB | U | Yes | |
| trans-1,2-Dichloroethene | 4.4 | ug/kg | 1.0 | U | U | Yes | |
| Methyl tert-butyl ether | 4.4 | ug/kg | 1.0 | U | U | Yes | |
| 1,1-Dichloroethane | 4.4 | ug/kg | 1.0 | U | U | Yes | |
| cis-1,2-Dichloroethene | 4.4 | ug/kg | 1.0 | U | U | Yes | |
| 2-Butanone | 8.8 | ug/kg | 1.0 | U | U | Yes | |
| Bromochloromet hane | 4.4 | ug/kg | 1.0 | U | U | Yes | |
| Chloroform | 4.4 | ug/kg | 1.0 | U | U | Yes | |
| 1,1,1-Trichloroethane | 4.4 | ug/kg | 1.0 | U | U | Yes | |
| Cyclohexane | 4.4 | ug/kg | 1.0 | J | U | Yes | |
| Carbon tetrachloride | 4.4 | ug/kg | 1.0 | U | U | Yes | |
| Benzene | 4.4 | ug/kg | 1.0 | U | U | Yes | |
| 1,2-Dichloroethane | 4.4 | ug/kg | 1.0 | U | U | Yes | |
| 1,4-Dioxane | 88 | ug/kg | 1.0 | U | R | Yes | |
| Trichloroethene | 4.4 | ug/kg | 1.0 | U | U | Yes | |
| Methylcyclohexa ne | 4.4 | ug/kg | 1.0 | U | U | Yes | |
| 1,2-Dichloropropane | 4.4 | ug/kg | 1.0 | U | U | Yes | |
| Bromodichlorom | 4.4 | ug/kg | 1.0 | U | U | Yes | |

| Analyte Name | Result | Units | Dilution Factor | Lab Flag | Validation | Reportable | Validation Level |
|-----------------------------|--------|-------|-----------------|----------|------------|------------|------------------|
| ethane | 4.4 | ug/kg | 1.0 | U | U | Yes | |
| cis-1,3-Dichloropropene | 4.4 | ug/kg | 1.0 | U | U | Yes | |
| 4-Methyl-2-Pentanone | 8.8 | ug/kg | 1.0 | U | U | Yes | |
| Toluene | 4.4 | ug/kg | 1.0 | J | U | Yes | |
| trans-1,3-Dichloropropene | 4.4 | ug/kg | 1.0 | U | U | Yes | |
| 1,1,2-Trichloroethane | 4.4 | ug/kg | 1.0 | U | U | Yes | |
| Tetrachloroethene | 4.4 | ug/kg | 1.0 | U | U | Yes | |
| 2-Hexanone | 8.8 | ug/kg | 1.0 | U | U | Yes | |
| Dibromochloromethane | 4.4 | ug/kg | 1.0 | U | U | Yes | |
| 1,2-Dibromoethane | 4.4 | ug/kg | 1.0 | U | U | Yes | |
| Chlorobenzene | 0.30 | ug/kg | 1.0 | J | J | Yes | |
| Ethylbenzene | 4.4 | ug/kg | 1.0 | U | U | Yes | |
| o-Xylene | 4.4 | ug/kg | 1.0 | U | U | Yes | |
| m,p-Xylene | 4.4 | ug/kg | 1.0 | U | U | Yes | |
| Styrene | 4.4 | ug/kg | 1.0 | U | U | Yes | |
| Bromoform | 4.4 | ug/kg | 1.0 | U | R | Yes | |
| Isopropylbenzene | 4.4 | ug/kg | 1.0 | U | U | Yes | |
| 1,1,2,2-Tetrachloroethane | 4.4 | ug/kg | 1.0 | U | U | Yes | |
| 1,3-Dichlorobenzene | 4.4 | ug/kg | 1.0 | U | R | Yes | |
| 1,4-Dichlorobenzene | 4.4 | ug/kg | 1.0 | U | R | Yes | |
| 1,2-Dichlorobenzene | 4.4 | ug/kg | 1.0 | U | R | Yes | |
| 1,2-Dibromo-3-chloropropane | 4.4 | ug/kg | 1.0 | U | R | Yes | |
| 1,2,4-Trichlorobenzene | 4.4 | ug/kg | 1.0 | U | R | Yes | |
| 1,2,3-Trichlorobenzene | 4.4 | ug/kg | 1.0 | U | R | Yes | |

| | | | | | | | |
|------------------|--------|-----------|-------------|--------------|----------|--------------|----------|
| Case No: | 42381 | Contract: | EPW11037 | SDG No: | E5L92 | Lab Code: | DATAAC |
| Sample Number: | E5L94 | Method: | VOA_Low_Med | Matrix: | Soil | MA Number: | DEFAULT |
| Sample Location: | SO-3 | pH: | | Sample Date: | 03262012 | Sample Time: | 13:30:00 |
| % Moisture : | 13.731 | | | % Solids : | | | |

| Analyte Name | Result | Units | Dilution Factor | Lab Flag | Validation | Reportable | Validation Level |
|---------------------------------------|--------|-------|-----------------|----------|------------|------------|------------------|
| Dichlorodifluoro methane | 5.3 | ug/kg | 1.0 | U | U | Yes | |
| Chloromethane | 5.3 | ug/kg | 1.0 | U | U | Yes | |
| Vinyl chloride | 5.3 | ug/kg | 1.0 | U | U | Yes | |
| Bromomethane | 5.3 | ug/kg | 1.0 | U | U | Yes | |
| Chloroethane | 5.3 | ug/kg | 1.0 | U | U | Yes | |
| Trichlorofluorom ethane | 5.3 | ug/kg | 1.0 | J | U | Yes | |
| 1,1-Dichloroethene | 5.3 | ug/kg | 1.0 | U | U | Yes | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 5.3 | ug/kg | 1.0 | U | U | Yes | |
| Acetone | 22 | ug/kg | 1.0 | JB | U | Yes | |
| Carbon disulfide | 5.3 | ug/kg | 1.0 | U | U | Yes | |
| Methyl acetate | 5.3 | ug/kg | 1.0 | U | U | Yes | |
| Methylene chloride | 11 | ug/kg | 1.0 | JB | U | Yes | |
| trans-1,2-Dichloroethene | 5.3 | ug/kg | 1.0 | U | U | Yes | |
| Methyl tert-butyl ether | 5.3 | ug/kg | 1.0 | U | U | Yes | |
| 1,1-Dichloroethane | 5.3 | ug/kg | 1.0 | U | U | Yes | |
| cis-1,2-Dichloroethene | 5.3 | ug/kg | 1.0 | U | U | Yes | |
| 2-Butanone | 11 | ug/kg | 1.0 | U | U | Yes | |
| Bromochloromet hane | 5.3 | ug/kg | 1.0 | U | U | Yes | |
| Chloroform | 5.3 | ug/kg | 1.0 | U | U | Yes | |
| 1,1,1-Trichloroethane | 5.3 | ug/kg | 1.0 | U | U | Yes | |
| Cyclohexane | 5.3 | ug/kg | 1.0 | J | U | Yes | |
| Carbon tetrachloride | 5.3 | ug/kg | 1.0 | U | U | Yes | |
| Benzene | 5.3 | ug/kg | 1.0 | U | U | Yes | |
| 1,2-Dichloroethane | 5.3 | ug/kg | 1.0 | U | U | Yes | |
| 1,4-Dioxane | 110 | ug/kg | 1.0 | U | R | Yes | |
| Trichloroethene | 5.3 | ug/kg | 1.0 | U | U | Yes | |
| Methylcyclohexa ne | 5.3 | ug/kg | 1.0 | U | U | Yes | |
| 1,2-Dichloropropane | 5.3 | ug/kg | 1.0 | U | U | Yes | |
| Bromodichlorom | 5.3 | ug/kg | 1.0 | U | U | Yes | |

| Analyte Name | Result | Units | Dilution Factor | Lab Flag | Validation | Reportable | Validation Level |
|-----------------------------|--------|-------|-----------------|----------|------------|------------|------------------|
| ethane | 5.3 | ug/kg | 1.0 | U | U | Yes | |
| cis-1,3-Dichloropropene | 5.3 | ug/kg | 1.0 | U | U | Yes | |
| 4-Methyl-2-Pentanone | 11 | ug/kg | 1.0 | U | U | Yes | |
| Toluene | 5.3 | ug/kg | 1.0 | J | U | Yes | |
| trans-1,3-Dichloropropene | 5.3 | ug/kg | 1.0 | U | U | Yes | |
| 1,1,2-Trichloroethane | 5.3 | ug/kg | 1.0 | U | U | Yes | |
| Tetrachloroethene | 5.3 | ug/kg | 1.0 | U | U | Yes | |
| 2-Hexanone | 11 | ug/kg | 1.0 | U | U | Yes | |
| Dibromochloromethane | 5.3 | ug/kg | 1.0 | U | U | Yes | |
| 1,2-Dibromoethane | 5.3 | ug/kg | 1.0 | U | U | Yes | |
| Chlorobenzene | 5.3 | ug/kg | 1.0 | U | U | Yes | |
| Ethylbenzene | 5.3 | ug/kg | 1.0 | U | U | Yes | |
| o-Xylene | 5.3 | ug/kg | 1.0 | U | U | Yes | |
| m,p-Xylene | 0.20 | ug/kg | 1.0 | J | J | Yes | |
| Styrene | 5.3 | ug/kg | 1.0 | U | U | Yes | |
| Bromoform | 5.3 | ug/kg | 1.0 | U | R | Yes | |
| Isopropylbenzene | 5.3 | ug/kg | 1.0 | U | U | Yes | |
| 1,1,2,2-Tetrachloroethane | 5.3 | ug/kg | 1.0 | U | U | Yes | |
| 1,3-Dichlorobenzene | 5.3 | ug/kg | 1.0 | U | R | Yes | |
| 1,4-Dichlorobenzene | 5.3 | ug/kg | 1.0 | U | R | Yes | |
| 1,2-Dichlorobenzene | 5.3 | ug/kg | 1.0 | U | R | Yes | |
| 1,2-Dibromo-3-chloropropane | 5.3 | ug/kg | 1.0 | U | R | Yes | |
| 1,2,4-Trichlorobenzene | 5.3 | ug/kg | 1.0 | U | R | Yes | |
| 1,2,3-Trichlorobenzene | 5.3 | ug/kg | 1.0 | U | R | Yes | |

| | | | | | | | |
|------------------|---------|-----------|-------------|--------------|----------|--------------|----------|
| Case No: | 42381 | Contract: | EPW11037 | SDG No: | E5L92 | Lab Code: | DATAAC |
| Sample Number: | E5L94RE | Method: | VOA_Low_Med | Matrix: | Soil | MA Number: | DEFAULT |
| Sample Location: | SO-3 | pH: | | Sample Date: | 03262012 | Sample Time: | 13:30:00 |
| % Moisture : | 13.731 | | | % Solids : | | | |

| Analyte Name | Result | Units | Dilution Factor | Lab Flag | Validation | Reportable | Validation Level |
|---------------------------------------|--------|-------|-----------------|----------|------------|------------|------------------|
| Dichlorodifluoro methane | 4.6 | ug/kg | 1.0 | U | U | Yes | |
| Chloromethane | 4.6 | ug/kg | 1.0 | U | U | Yes | |
| Vinyl chloride | 4.6 | ug/kg | 1.0 | U | U | Yes | |
| Bromomethane | 4.6 | ug/kg | 1.0 | U | U | Yes | |
| Chloroethane | 4.6 | ug/kg | 1.0 | U | U | Yes | |
| Trichlorofluorom ethane | 4.6 | ug/kg | 1.0 | J | U | Yes | |
| 1,1-Dichloroethene | 4.6 | ug/kg | 1.0 | U | U | Yes | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 4.6 | ug/kg | 1.0 | U | U | Yes | |
| Acetone | 18 | ug/kg | 1.0 | JB | U | Yes | |
| Carbon disulfide | 4.6 | ug/kg | 1.0 | U | U | Yes | |
| Methyl acetate | 4.6 | ug/kg | 1.0 | U | U | Yes | |
| Methylene chloride | 4.6 | ug/kg | 1.0 | U | U | Yes | |
| trans-1,2-Dichloroethene | 4.6 | ug/kg | 1.0 | U | U | Yes | |
| Methyl tert-butyl ether | 4.6 | ug/kg | 1.0 | U | U | Yes | |
| 1,1-Dichloroethane | 4.6 | ug/kg | 1.0 | U | U | Yes | |
| cis-1,2-Dichloroethene | 4.6 | ug/kg | 1.0 | U | U | Yes | |
| 2-Butanone | 9.2 | ug/kg | 1.0 | U | U | Yes | |
| Bromochloromet hane | 4.6 | ug/kg | 1.0 | U | U | Yes | |
| Chloroform | 4.6 | ug/kg | 1.0 | U | U | Yes | |
| 1,1,1-Trichloroethane | 4.6 | ug/kg | 1.0 | U | R | Yes | |
| Cyclohexane | 4.6 | ug/kg | 1.0 | J | R | Yes | |
| Carbon tetrachloride | 4.6 | ug/kg | 1.0 | U | R | Yes | |
| Benzene | 4.6 | ug/kg | 1.0 | U | R | Yes | |
| 1,2-Dichloroethane | 4.6 | ug/kg | 1.0 | U | U | Yes | |
| 1,4-Dioxane | 92 | ug/kg | 1.0 | U | R | Yes | |
| Trichloroethene | 4.6 | ug/kg | 1.0 | U | R | Yes | |
| Methylcyclohexa ne | 4.6 | ug/kg | 1.0 | U | R | Yes | |
| 1,2-Dichloropropane | 4.6 | ug/kg | 1.0 | U | R | Yes | |
| Bromodichlorom | 4.6 | ug/kg | 1.0 | U | R | Yes | |

| Analyte Name | Result | Units | Dilution Factor | Lab Flag | Validation | Reportable | Validation Level |
|-----------------------------|--------|-------|-----------------|----------|------------|------------|------------------|
| ethane | 4.6 | ug/kg | 1.0 | U | R | Yes | |
| cis-1,3-Dichloropropene | 4.6 | ug/kg | 1.0 | U | R | Yes | |
| 4-Methyl-2-Pentanone | 9.2 | ug/kg | 1.0 | U | R | Yes | |
| Toluene | 4.6 | ug/kg | 1.0 | J | R | Yes | |
| trans-1,3-Dichloropropene | 4.6 | ug/kg | 1.0 | U | R | Yes | |
| 1,1,2-Trichloroethane | 4.6 | ug/kg | 1.0 | U | R | Yes | |
| Tetrachloroethene | 4.6 | ug/kg | 1.0 | U | R | Yes | |
| 2-Hexanone | 9.2 | ug/kg | 1.0 | U | R | Yes | |
| Dibromochloromethane | 4.6 | ug/kg | 1.0 | U | R | Yes | |
| 1,2-Dibromoethane | 4.6 | ug/kg | 1.0 | U | R | Yes | |
| Chlorobenzene | 4.6 | ug/kg | 1.0 | U | R | Yes | |
| Ethylbenzene | 4.6 | ug/kg | 1.0 | U | R | Yes | |
| o-Xylene | 4.6 | ug/kg | 1.0 | U | R | Yes | |
| m,p-Xylene | 0.25 | ug/kg | 1.0 | J | J | Yes | |
| Styrene | 0.25 | ug/kg | 1.0 | J | J | Yes | |
| Bromoform | 4.6 | ug/kg | 1.0 | U | R | Yes | |
| Isopropylbenzene | 4.6 | ug/kg | 1.0 | U | R | Yes | |
| 1,1,2,2-Tetrachloroethane | 4.6 | ug/kg | 1.0 | U | R | Yes | |
| 1,3-Dichlorobenzene | 4.6 | ug/kg | 1.0 | U | R | Yes | |
| 1,4-Dichlorobenzene | 4.6 | ug/kg | 1.0 | U | R | Yes | |
| 1,2-Dichlorobenzene | 4.6 | ug/kg | 1.0 | U | R | Yes | |
| 1,2-Dibromo-3-chloropropane | 4.6 | ug/kg | 1.0 | U | R | Yes | |
| 1,2,4-Trichlorobenzene | 4.6 | ug/kg | 1.0 | U | R | Yes | |
| 1,2,3-Trichlorobenzene | 4.6 | ug/kg | 1.0 | U | R | Yes | |

| | | | | | | | |
|------------------|--------|-----------|-------------|--------------|----------|--------------|----------|
| Case No: | 42381 | Contract: | EPW11037 | SDG No: | E5L92 | Lab Code: | DATA |
| Sample Number: | E5L95 | Method: | VOA_Low_Med | Matrix: | Soil | MA Number: | DEFAULT |
| Sample Location: | SO-4 | pH: | | Sample Date: | 03262012 | Sample Time: | 15:10:00 |
| % Moisture : | 11.456 | | | % Solids : | | | |

| Analyte Name | Result | Units | Dilution Factor | Lab Flag | Validation | Reportable | Validation Level |
|---------------------------------------|--------|-------|-----------------|----------|------------|------------|------------------|
| Dichlorodifluoro methane | 4.6 | ug/kg | 1.0 | U | U | Yes | |
| Chloromethane | 4.6 | ug/kg | 1.0 | U | U | Yes | |
| Vinyl chloride | 4.6 | ug/kg | 1.0 | U | U | Yes | |
| Bromomethane | 4.6 | ug/kg | 1.0 | U | U | Yes | |
| Chloroethane | 4.6 | ug/kg | 1.0 | U | U | Yes | |
| Trichlorofluorom ethane | 4.6 | ug/kg | 1.0 | J | U | Yes | |
| 1,1-Dichloroethene | 4.6 | ug/kg | 1.0 | U | U | Yes | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 4.6 | ug/kg | 1.0 | U | U | Yes | |
| Acetone | 19 | ug/kg | 1.0 | JB | U | Yes | |
| Carbon disulfide | 0.31 | ug/kg | 1.0 | J | J | Yes | |
| Methyl acetate | 4.6 | ug/kg | 1.0 | U | U | Yes | |
| Methylene chloride | 9.3 | ug/kg | 1.0 | JB | U | Yes | |
| trans-1,2-Dichloroethene | 4.6 | ug/kg | 1.0 | U | U | Yes | |
| Methyl tert-butyl ether | 4.6 | ug/kg | 1.0 | U | U | Yes | |
| 1,1-Dichloroethane | 4.6 | ug/kg | 1.0 | U | U | Yes | |
| cis-1,2-Dichloroethene | 4.6 | ug/kg | 1.0 | U | U | Yes | |
| 2-Butanone | 9.3 | ug/kg | 1.0 | U | U | Yes | |
| Bromochloromet hane | 4.6 | ug/kg | 1.0 | U | U | Yes | |
| Chloroform | 4.6 | ug/kg | 1.0 | U | U | Yes | |
| 1,1,1-Trichloroethane | 4.6 | ug/kg | 1.0 | U | U | Yes | |
| Cyclohexane | 4.6 | ug/kg | 1.0 | J | U | Yes | |
| Carbon tetrachloride | 4.6 | ug/kg | 1.0 | U | U | Yes | |
| Benzene | 4.6 | ug/kg | 1.0 | U | U | Yes | |
| 1,2-Dichloroethane | 4.6 | ug/kg | 1.0 | U | U | Yes | |
| 1,4-Dioxane | 93 | ug/kg | 1.0 | U | R | Yes | |
| Trichloroethene | 4.6 | ug/kg | 1.0 | U | U | Yes | |
| Methylcyclohexa ne | 4.6 | ug/kg | 1.0 | U | U | Yes | |
| 1,2-Dichloropropane | 4.6 | ug/kg | 1.0 | U | U | Yes | |
| Bromodichlorom | 4.6 | ug/kg | 1.0 | U | U | Yes | |

| Analyte Name | Result | Units | Dilution Factor | Lab Flag | Validation | Reportable | Validation Level |
|-----------------------------|--------|-------|-----------------|----------|------------|------------|------------------|
| ethane | 4.6 | ug/kg | 1.0 | U | U | Yes | |
| cis-1,3-Dichloropropene | 4.6 | ug/kg | 1.0 | U | U | Yes | |
| 4-Methyl-2-Pentanone | 9.3 | ug/kg | 1.0 | U | U | Yes | |
| Toluene | 4.6 | ug/kg | 1.0 | J | U | Yes | |
| trans-1,3-Dichloropropene | 4.6 | ug/kg | 1.0 | U | U | Yes | |
| 1,1,2-Trichloroethane | 4.6 | ug/kg | 1.0 | U | U | Yes | |
| Tetrachloroethene | 4.6 | ug/kg | 1.0 | U | U | Yes | |
| 2-Hexanone | 9.3 | ug/kg | 1.0 | U | U | Yes | |
| Dibromochloromethane | 4.6 | ug/kg | 1.0 | U | U | Yes | |
| 1,2-Dibromoethane | 4.6 | ug/kg | 1.0 | U | U | Yes | |
| Chlorobenzene | 4.6 | ug/kg | 1.0 | U | U | Yes | |
| Ethylbenzene | 4.6 | ug/kg | 1.0 | U | U | Yes | |
| o-Xylene | 4.6 | ug/kg | 1.0 | U | U | Yes | |
| m,p-Xylene | 4.6 | ug/kg | 1.0 | U | U | Yes | |
| Styrene | 0.14 | ug/kg | 1.0 | J | J | Yes | |
| Bromoform | 4.6 | ug/kg | 1.0 | U | R | Yes | |
| Isopropylbenzene | 4.6 | ug/kg | 1.0 | U | U | Yes | |
| 1,1,2,2-Tetrachloroethane | 4.6 | ug/kg | 1.0 | U | U | Yes | |
| 1,3-Dichlorobenzene | 4.6 | ug/kg | 1.0 | U | R | Yes | |
| 1,4-Dichlorobenzene | 4.6 | ug/kg | 1.0 | U | R | Yes | |
| 1,2-Dichlorobenzene | 4.6 | ug/kg | 1.0 | U | R | Yes | |
| 1,2-Dibromo-3-chloropropane | 4.6 | ug/kg | 1.0 | U | R | Yes | |
| 1,2,4-Trichlorobenzene | 4.6 | ug/kg | 1.0 | U | R | Yes | |
| 1,2,3-Trichlorobenzene | 4.6 | ug/kg | 1.0 | U | R | Yes | |

| | | | | | | | |
|------------------|---------|-----------|-------------|--------------|----------|--------------|----------|
| Case No: | 42381 | Contract: | EPW11037 | SDG No: | E5L92 | Lab Code: | DATA |
| Sample Number: | E5L95RE | Method: | VOA_Low_Med | Matrix: | Soil | MA Number: | DEFAULT |
| Sample Location: | SO-4 | pH: | | Sample Date: | 03262012 | Sample Time: | 15:10:00 |
| % Moisture : | 11.456 | | | % Solids : | | | |

| Analyte Name | Result | Units | Dilution Factor | Lab Flag | Validation | Reportable | Validation Level |
|---------------------------------------|--------|-------|-----------------|----------|------------|------------|------------------|
| Dichlorodifluoro methane | 5.3 | ug/kg | 1.0 | U | U | Yes | |
| Chloromethane | 5.3 | ug/kg | 1.0 | U | U | Yes | |
| Vinyl chloride | 5.3 | ug/kg | 1.0 | U | U | Yes | |
| Bromomethane | 5.3 | ug/kg | 1.0 | U | U | Yes | |
| Chloroethane | 5.3 | ug/kg | 1.0 | U | U | Yes | |
| Trichlorofluorom ethane | 5.3 | ug/kg | 1.0 | J | U | Yes | |
| 1,1-Dichloroethene | 5.3 | ug/kg | 1.0 | U | U | Yes | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 5.3 | ug/kg | 1.0 | U | U | Yes | |
| Acetone | 22 | ug/kg | 1.0 | B | U | Yes | |
| Carbon disulfide | 0.80 | ug/kg | 1.0 | J | J | Yes | |
| Methyl acetate | 5.3 | ug/kg | 1.0 | U | U | Yes | |
| Methylene chloride | 5.3 | ug/kg | 1.0 | U | U | Yes | |
| trans-1,2-Dichloroethene | 5.3 | ug/kg | 1.0 | U | U | Yes | |
| Methyl tert-butyl ether | 5.3 | ug/kg | 1.0 | U | U | Yes | |
| 1,1-Dichloroethane | 5.3 | ug/kg | 1.0 | U | U | Yes | |
| cis-1,2-Dichloroethene | 5.3 | ug/kg | 1.0 | U | U | Yes | |
| 2-Butanone | 11 | ug/kg | 1.0 | U | U | Yes | |
| Bromochloromet hane | 5.3 | ug/kg | 1.0 | U | U | Yes | |
| Chloroform | 5.3 | ug/kg | 1.0 | U | U | Yes | |
| 1,1,1-Trichloroethane | 5.3 | ug/kg | 1.0 | U | R | Yes | |
| Cyclohexane | 5.3 | ug/kg | 1.0 | J | R | Yes | |
| Carbon tetrachloride | 5.3 | ug/kg | 1.0 | U | R | Yes | |
| Benzene | 5.3 | ug/kg | 1.0 | U | R | Yes | |
| 1,2-Dichloroethane | 5.3 | ug/kg | 1.0 | U | U | Yes | |
| 1,4-Dioxane | 110 | ug/kg | 1.0 | U | R | Yes | |
| Trichloroethene | 5.3 | ug/kg | 1.0 | U | R | Yes | |
| Methylcyclohexa ne | 5.3 | ug/kg | 1.0 | U | R | Yes | |
| 1,2-Dichloropropane | 5.3 | ug/kg | 1.0 | U | R | Yes | |
| Bromodichlorom | 5.3 | ug/kg | 1.0 | U | R | Yes | |

| Analyte Name | Result | Units | Dilution Factor | Lab Flag | Validation | Reportable | Validation Level |
|-----------------------------|--------|-------|-----------------|----------|------------|------------|------------------|
| ethane | 5.3 | ug/kg | 1.0 | U | R | Yes | |
| cis-1,3-Dichloropropene | 5.3 | ug/kg | 1.0 | U | R | Yes | |
| 4-Methyl-2-Pentanone | 11 | ug/kg | 1.0 | U | R | Yes | |
| Toluene | 5.3 | ug/kg | 1.0 | J | R | Yes | |
| trans-1,3-Dichloropropene | 5.3 | ug/kg | 1.0 | U | R | Yes | |
| 1,1,2-Trichloroethane | 5.3 | ug/kg | 1.0 | U | R | Yes | |
| Tetrachloroethene | 5.3 | ug/kg | 1.0 | U | R | Yes | |
| 2-Hexanone | 11 | ug/kg | 1.0 | U | R | Yes | |
| Dibromochloromethane | 5.3 | ug/kg | 1.0 | U | R | Yes | |
| 1,2-Dibromoethane | 5.3 | ug/kg | 1.0 | U | R | Yes | |
| Chlorobenzene | 5.3 | ug/kg | 1.0 | U | R | Yes | |
| Ethylbenzene | 5.3 | ug/kg | 1.0 | U | R | Yes | |
| o-Xylene | 5.3 | ug/kg | 1.0 | U | R | Yes | |
| m,p-Xylene | 0.23 | ug/kg | 1.0 | J | J | Yes | |
| Styrene | 0.21 | ug/kg | 1.0 | J | J | Yes | |
| Bromoform | 5.3 | ug/kg | 1.0 | U | R | Yes | |
| Isopropylbenzene | 5.3 | ug/kg | 1.0 | U | R | Yes | |
| 1,1,2,2-Tetrachloroethane | 5.3 | ug/kg | 1.0 | U | R | Yes | |
| 1,3-Dichlorobenzene | 5.3 | ug/kg | 1.0 | U | R | Yes | |
| 1,4-Dichlorobenzene | 5.3 | ug/kg | 1.0 | U | R | Yes | |
| 1,2-Dichlorobenzene | 5.3 | ug/kg | 1.0 | U | R | Yes | |
| 1,2-Dibromo-3-chloropropane | 5.3 | ug/kg | 1.0 | U | R | Yes | |
| 1,2,4-Trichlorobenzene | 5.3 | ug/kg | 1.0 | U | R | Yes | |
| 1,2,3-Trichlorobenzene | 5.3 | ug/kg | 1.0 | U | R | Yes | |

| | | | | | | | |
|------------------|-------|-----------|-----------|--------------|----------|--------------|----------|
| Case No: | 42381 | Contract: | EPW11037 | SDG No: | E5L92 | Lab Code: | DATA C |
| Sample Number: | E5L96 | Method: | VOA_Trace | Matrix: | Water | MA Number: | DEFAULT |
| Sample Location: | TB-2 | pH: | 1.0 | Sample Date: | 03232012 | Sample Time: | 12:00:00 |
| % Moisture : | | | | % Solids : | | | |

| Analyte Name | Result | Units | Dilution Factor | Lab Flag | Validation | Reportable | Validation Level |
|---------------------------------------|--------|-------|-----------------|----------|------------|------------|------------------|
| Dichlorodifluoro methane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Chloromethane | 0.11 | ug/L | 1.0 | J | J | Yes | |
| Vinyl chloride | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Bromomethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Chloroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Trichlorofluorom ethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,1-Dichloroethene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Acetone | 9.2 | ug/L | 1.0 | | | Yes | |
| Carbon disulfide | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Methyl acetate | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Methylene chloride | 0.50 | ug/L | 1.0 | U | U | Yes | |
| trans-1,2-Dichloroethene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Methyl tert-butyl ether | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,1-Dichloroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| cis-1,2-Dichloroethene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 2-Butanone | 5.0 | ug/L | 1.0 | U | U | Yes | |
| Bromochloromet hane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Chloroform | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,1,1-Trichloroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Cyclohexane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Carbon tetrachloride | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Benzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2-Dichloroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Trichloroethene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Methylcyclohexa ne | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2-Dichloropropane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Bromodichlorom ethane | 0.50 | ug/L | 1.0 | U | U | Yes | |

| Analyte Name | Result | Units | Dilution Factor | Lab Flag | Validation | Reportable | Validation Level |
|-----------------------------|--------|-------|-----------------|----------|------------|------------|------------------|
| cis-1,3-Dichloropropene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 4-Methyl-2-Pentanone | 5.0 | ug/L | 1.0 | U | U | Yes | |
| Toluene | 0.13 | ug/L | 1.0 | J | J | Yes | |
| trans-1,3-Dichloropropene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,1,2-Trichloroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Tetrachloroethene | 0.12 | ug/L | 1.0 | J | J | Yes | |
| 2-Hexanone | 5.0 | ug/L | 1.0 | U | U | Yes | |
| Dibromochloromethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2-Dibromoethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Chlorobenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Ethylbenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| o-Xylene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| m,p-Xylene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Styrene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Bromoform | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Isopropylbenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,1,2,2-Tetrachloroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,3-Dichlorobenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,4-Dichlorobenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2-Dichlorobenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2-Dibromo-3-chloropropane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2,4-Trichlorobenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2,3-Trichlorobenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |

| | | | | | | | |
|------------------|--------|-----------|-------------|--------------|----------|--------------|----------|
| Case No: | 42381 | Contract: | EPW11037 | SDG No: | E5L92 | Lab Code: | DATA |
| Sample Number: | E5L97 | Method: | VOA_Low_Med | Matrix: | Soil | MA Number: | DEFAULT |
| Sample Location: | SO-5 | pH: | | Sample Date: | 03262012 | Sample Time: | 15:20:00 |
| % Moisture : | 11.905 | | | % Solids : | | | |

| Analyte Name | Result | Units | Dilution Factor | Lab Flag | Validation | Reportable | Validation Level |
|---------------------------------------|--------|-------|-----------------|----------|------------|------------|------------------|
| Dichlorodifluoro methane | 4.7 | ug/kg | 1.0 | U | U | Yes | |
| Chloromethane | 4.7 | ug/kg | 1.0 | U | U | Yes | |
| Vinyl chloride | 4.7 | ug/kg | 1.0 | U | U | Yes | |
| Bromomethane | 4.7 | ug/kg | 1.0 | U | U | Yes | |
| Chloroethane | 4.7 | ug/kg | 1.0 | U | U | Yes | |
| Trichlorofluorom ethane | 4.7 | ug/kg | 1.0 | J | U | Yes | |
| 1,1-Dichloroethene | 4.7 | ug/kg | 1.0 | U | U | Yes | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 4.7 | ug/kg | 1.0 | U | U | Yes | |
| Acetone | 19 | ug/kg | 1.0 | JB | U | Yes | |
| Carbon disulfide | 4.7 | ug/kg | 1.0 | U | U | Yes | |
| Methyl acetate | 4.7 | ug/kg | 1.0 | U | U | Yes | |
| Methylene chloride | 9.4 | ug/kg | 1.0 | JB | U | Yes | |
| trans-1,2-Dichloroethene | 4.7 | ug/kg | 1.0 | U | U | Yes | |
| Methyl tert-butyl ether | 4.7 | ug/kg | 1.0 | U | U | Yes | |
| 1,1-Dichloroethane | 4.7 | ug/kg | 1.0 | U | U | Yes | |
| cis-1,2-Dichloroethene | 4.7 | ug/kg | 1.0 | U | U | Yes | |
| 2-Butanone | 9.4 | ug/kg | 1.0 | U | U | Yes | |
| Bromochloromet hane | 4.7 | ug/kg | 1.0 | U | U | Yes | |
| Chloroform | 4.7 | ug/kg | 1.0 | U | U | Yes | |
| 1,1,1-Trichloroethane | 4.7 | ug/kg | 1.0 | U | U | Yes | |
| Cyclohexane | 4.7 | ug/kg | 1.0 | J | U | Yes | |
| Carbon tetrachloride | 4.7 | ug/kg | 1.0 | U | U | Yes | |
| Benzene | 4.7 | ug/kg | 1.0 | U | U | Yes | |
| 1,2-Dichloroethane | 4.7 | ug/kg | 1.0 | U | U | Yes | |
| 1,4-Dioxane | 94 | ug/kg | 1.0 | U | R | Yes | |
| Trichloroethene | 4.7 | ug/kg | 1.0 | U | U | Yes | |
| Methylcyclohexa ne | 4.7 | ug/kg | 1.0 | U | U | Yes | |
| 1,2-Dichloropropane | 4.7 | ug/kg | 1.0 | U | U | Yes | |
| Bromodichlorom | 4.7 | ug/kg | 1.0 | U | U | Yes | |

| Analyte Name | Result | Units | Dilution Factor | Lab Flag | Validation | Reportable | Validation Level |
|-----------------------------|--------|-------|-----------------|----------|------------|------------|------------------|
| ethane | 4.7 | ug/kg | 1.0 | U | U | Yes | |
| cis-1,3-Dichloropropene | 4.7 | ug/kg | 1.0 | U | U | Yes | |
| 4-Methyl-2-Pentanone | 9.4 | ug/kg | 1.0 | U | U | Yes | |
| Toluene | 4.7 | ug/kg | 1.0 | J | U | Yes | |
| trans-1,3-Dichloropropene | 4.7 | ug/kg | 1.0 | U | U | Yes | |
| 1,1,2-Trichloroethane | 4.7 | ug/kg | 1.0 | U | U | Yes | |
| Tetrachloroethene | 41 | ug/kg | 1.0 | | | Yes | |
| 2-Hexanone | 9.4 | ug/kg | 1.0 | U | U | Yes | |
| Dibromochloromethane | 4.7 | ug/kg | 1.0 | U | U | Yes | |
| 1,2-Dibromoethane | 4.7 | ug/kg | 1.0 | U | U | Yes | |
| Chlorobenzene | 4.7 | ug/kg | 1.0 | U | U | Yes | |
| Ethylbenzene | 4.7 | ug/kg | 1.0 | U | U | Yes | |
| o-Xylene | 4.7 | ug/kg | 1.0 | U | U | Yes | |
| m,p-Xylene | 4.7 | ug/kg | 1.0 | U | U | Yes | |
| Styrene | 4.7 | ug/kg | 1.0 | U | U | Yes | |
| Bromoform | 4.7 | ug/kg | 1.0 | U | U | Yes | |
| Isopropylbenzene | 4.7 | ug/kg | 1.0 | U | U | Yes | |
| 1,1,2,2-Tetrachloroethane | 4.7 | ug/kg | 1.0 | U | U | Yes | |
| 1,3-Dichlorobenzene | 4.7 | ug/kg | 1.0 | U | U | Yes | |
| 1,4-Dichlorobenzene | 4.7 | ug/kg | 1.0 | U | U | Yes | |
| 1,2-Dichlorobenzene | 4.7 | ug/kg | 1.0 | U | U | Yes | |
| 1,2-Dibromo-3-chloropropane | 4.7 | ug/kg | 1.0 | U | U | Yes | |
| 1,2,4-Trichlorobenzene | 4.7 | ug/kg | 1.0 | U | U | Yes | |
| 1,2,3-Trichlorobenzene | 4.7 | ug/kg | 1.0 | U | U | Yes | |

| | | | | | | | |
|------------------|--------|-----------|-------------|--------------|-------|--------------|---------|
| Case No: | 42381 | Contract: | EPW11037 | SDG No: | E5L92 | Lab Code: | DATAAC |
| Sample Number: | VBLKS1 | Method: | VOA_Low_Med | Matrix: | Soil | MA Number: | DEFAULT |
| Sample Location: | | pH: | | Sample Date: | | Sample Time: | |
| % Moisture : | 0.0 | | | % Solids : | | | |

| Analyte Name | Result | Units | Dilution Factor | Lab Flag | Validation | Reportable | Validation Level |
|---------------------------------------|--------|-------|-----------------|----------|------------|------------|------------------|
| Dichlorodifluoro methane | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| Chloromethane | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| Vinyl chloride | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| Bromomethane | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| Chloroethane | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| Trichlorofluorom ethane | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| 1,1-Dichloroethene | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| Acetone | 4.2 | ug/kg | 1.0 | J | J | Yes | |
| Carbon disulfide | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| Methyl acetate | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| Methylene chloride | 0.25 | ug/kg | 1.0 | J | J | Yes | |
| trans-1,2-Dichloroethene | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| Methyl tert-butyl ether | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| 1,1-Dichloroethane | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| cis-1,2-Dichloroethene | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| 2-Butanone | 10 | ug/kg | 1.0 | U | U | Yes | |
| Bromochloromet hane | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| Chloroform | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| 1,1,1-Trichloroethane | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| Cyclohexane | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| Carbon tetrachloride | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| Benzene | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| 1,2-Dichloroethane | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| 1,4-Dioxane | 100 | ug/kg | 1.0 | U | R | Yes | |
| Trichloroethene | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| Methylcyclohexa ne | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| 1,2-Dichloropropane | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| Bromodichlorom | 5.0 | ug/kg | 1.0 | U | U | Yes | |

| Analyte Name | Result | Units | Dilution Factor | Lab Flag | Validation | Reportable | Validation Level |
|-----------------------------|--------|-------|-----------------|----------|------------|------------|------------------|
| ethane | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| cis-1,3-Dichloropropene | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| 4-Methyl-2-Pentanone | 10 | ug/kg | 1.0 | U | U | Yes | |
| Toluene | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| trans-1,3-Dichloropropene | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| 1,1,2-Trichloroethane | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| Tetrachloroethene | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| 2-Hexanone | 10 | ug/kg | 1.0 | U | U | Yes | |
| Dibromochloromethane | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| 1,2-Dibromoethane | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| Chlorobenzene | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| Ethylbenzene | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| o-Xylene | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| m,p-Xylene | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| Styrene | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| Bromoform | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| Isopropylbenzene | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| 1,1,2,2-Tetrachloroethane | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| 1,3-Dichlorobenzene | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| 1,4-Dichlorobenzene | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| 1,2-Dichlorobenzene | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| 1,2-Dibromo-3-chloropropane | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| 1,2,4-Trichlorobenzene | 0.36 | ug/kg | 1.0 | J | J | Yes | |
| 1,2,3-Trichlorobenzene | 0.88 | ug/kg | 1.0 | J | J | Yes | |

| | | | | | | | |
|------------------|--------|-----------|-----------|--------------|-------|--------------|---------|
| Case No: | 42381 | Contract: | EPW11037 | SDG No: | E5L92 | Lab Code: | DATAAC |
| Sample Number: | VBLKT1 | Method: | VOA_Trace | Matrix: | Water | MA Number: | DEFAULT |
| Sample Location: | | pH: | | Sample Date: | | Sample Time: | |
| % Moisture : | | | | % Solids : | | | |

| Analyte Name | Result | Units | Dilution Factor | Lab Flag | Validation | Reportable | Validation Level |
|---------------------------------------|--------|-------|-----------------|----------|------------|------------|------------------|
| Dichlorodifluoro methane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Chloromethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Vinyl chloride | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Bromomethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Chloroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Trichlorofluorom ethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,1-Dichloroethene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Acetone | 5.0 | ug/L | 1.0 | U | U | Yes | |
| Carbon disulfide | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Methyl acetate | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Methylene chloride | 0.50 | ug/L | 1.0 | U | U | Yes | |
| trans-1,2-Dichloroethene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Methyl tert-butyl ether | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,1-Dichloroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| cis-1,2-Dichloroethene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 2-Butanone | 5.0 | ug/L | 1.0 | U | U | Yes | |
| Bromochloromet hane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Chloroform | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,1,1-Trichloroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Cyclohexane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Carbon tetrachloride | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Benzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2-Dichloroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Trichloroethene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Methylcyclohexa ne | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2-Dichloropropane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Bromodichlorom ethane | 0.50 | ug/L | 1.0 | U | U | Yes | |

| Analyte Name | Result | Units | Dilution Factor | Lab Flag | Validation | Reportable | Validation Level |
|-----------------------------|--------|-------|-----------------|----------|------------|------------|------------------|
| cis-1,3-Dichloropropene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 4-Methyl-2-Pentanone | 5.0 | ug/L | 1.0 | U | U | Yes | |
| Toluene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| trans-1,3-Dichloropropene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,1,2-Trichloroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Tetrachloroethene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 2-Hexanone | 5.0 | ug/L | 1.0 | U | U | Yes | |
| Dibromochloromethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2-Dibromoethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Chlorobenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Ethylbenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| o-Xylene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| m,p-Xylene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Styrene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Bromoform | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Isopropylbenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,1,2,2-Tetrachloroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,3-Dichlorobenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,4-Dichlorobenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2-Dichlorobenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2-Dibromo-3-chloropropane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2,4-Trichlorobenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2,3-Trichlorobenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |

| | | | | | | | |
|------------------|---------|-----------|-------------|--------------|-------|--------------|---------|
| Case No: | 42381 | Contract: | EPW11037 | SDG No: | E5L92 | Lab Code: | DATAAC |
| Sample Number: | VHBLKS1 | Method: | VOA_Low_Med | Matrix: | Soil | MA Number: | DEFAULT |
| Sample Location: | | pH: | | Sample Date: | | Sample Time: | |
| % Moisture : | 0.0 | | | % Solids : | | | |

| Analyte Name | Result | Units | Dilution Factor | Lab Flag | Validation | Reportable | Validation Level |
|---------------------------------------|--------|-------|-----------------|----------|------------|------------|------------------|
| Dichlorodifluoro methane | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| Chloromethane | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| Vinyl chloride | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| Bromomethane | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| Chloroethane | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| Trichlorofluorom ethane | 0.31 | ug/kg | 1.0 | J | J | Yes | |
| 1,1-Dichloroethene | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| Acetone | 10 | ug/kg | 1.0 | U | U | Yes | |
| Carbon disulfide | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| Methyl acetate | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| Methylene chloride | 10 | ug/kg | 1.0 | JB | U | Yes | |
| trans-1,2-Dichloroethene | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| Methyl tert-butyl ether | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| 1,1-Dichloroethane | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| cis-1,2-Dichloroethene | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| 2-Butanone | 10 | ug/kg | 1.0 | U | U | Yes | |
| Bromochloromet hane | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| Chloroform | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| 1,1,1-Trichloroethane | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| Cyclohexane | 0.23 | ug/kg | 1.0 | J | J | Yes | |
| Carbon tetrachloride | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| Benzene | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| 1,2-Dichloroethane | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| 1,4-Dioxane | 100 | ug/kg | 1.0 | U | R | Yes | |
| Trichloroethene | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| Methylcyclohexa ne | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| 1,2-Dichloropropane | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| Bromodichlorom | 5.0 | ug/kg | 1.0 | U | U | Yes | |

| Analyte Name | Result | Units | Dilution Factor | Lab Flag | Validation | Reportable | Validation Level |
|-----------------------------|--------|-------|-----------------|----------|------------|------------|------------------|
| ethane | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| cis-1,3-Dichloropropene | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| 4-Methyl-2-Pentanone | 10 | ug/kg | 1.0 | U | U | Yes | |
| Toluene | 0.23 | ug/kg | 1.0 | J | J | Yes | |
| trans-1,3-Dichloropropene | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| 1,1,2-Trichloroethane | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| Tetrachloroethene | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| 2-Hexanone | 10 | ug/kg | 1.0 | U | U | Yes | |
| Dibromochloroethane | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| 1,2-Dibromoethane | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| Chlorobenzene | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| Ethylbenzene | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| o-Xylene | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| m,p-Xylene | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| Styrene | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| Bromoform | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| Isopropylbenzene | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| 1,1,2,2-Tetrachloroethane | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| 1,3-Dichlorobenzene | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| 1,4-Dichlorobenzene | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| 1,2-Dichlorobenzene | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| 1,2-Dibromo-3-chloropropane | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| 1,2,4-Trichlorobenzene | 5.0 | ug/kg | 1.0 | U | U | Yes | |
| 1,2,3-Trichlorobenzene | 5.0 | ug/kg | 1.0 | U | U | Yes | |

| | | | | | | | |
|------------------|---------|-----------|-----------|--------------|-------|--------------|---------|
| Case No: | 42381 | Contract: | EPW11037 | SDG No: | E5L92 | Lab Code: | DATAAC |
| Sample Number: | VHBLKT1 | Method: | VOA_Trace | Matrix: | Water | MA Number: | DEFAULT |
| Sample Location: | | pH: | | Sample Date: | | Sample Time: | |
| % Moisture : | | | | % Solids : | | | |

| Analyte Name | Result | Units | Dilution Factor | Lab Flag | Validation | Reportable | Validation Level |
|---------------------------------------|--------|-------|-----------------|----------|------------|------------|------------------|
| Dichlorodifluoro methane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Chloromethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Vinyl chloride | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Bromomethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Chloroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Trichlorofluorom ethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,1-Dichloroethene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Acetone | 5.0 | ug/L | 1.0 | U | U | Yes | |
| Carbon disulfide | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Methyl acetate | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Methylene chloride | 0.50 | ug/L | 1.0 | U | U | Yes | |
| trans-1,2-Dichloroethene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Methyl tert-butyl ether | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,1-Dichloroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| cis-1,2-Dichloroethene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 2-Butanone | 5.0 | ug/L | 1.0 | U | U | Yes | |
| Bromochloromet hane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Chloroform | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,1,1-Trichloroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Cyclohexane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Carbon tetrachloride | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Benzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2-Dichloroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Trichloroethene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Methylcyclohexa ne | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2-Dichloropropane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Bromodichlorom ethane | 0.50 | ug/L | 1.0 | U | U | Yes | |

| Analyte Name | Result | Units | Dilution Factor | Lab Flag | Validation | Reportable | Validation Level |
|-----------------------------|--------|-------|-----------------|----------|------------|------------|------------------|
| cis-1,3-Dichloropropene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 4-Methyl-2-Pentanone | 5.0 | ug/L | 1.0 | U | U | Yes | |
| Toluene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| trans-1,3-Dichloropropene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,1,2-Trichloroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Tetrachloroethene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 2-Hexanone | 5.0 | ug/L | 1.0 | U | U | Yes | |
| Dibromochloromethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2-Dibromoethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Chlorobenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Ethylbenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| o-Xylene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| m,p-Xylene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Styrene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Bromoform | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Isopropylbenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,1,2,2-Tetrachloroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,3-Dichlorobenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,4-Dichlorobenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2-Dichlorobenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2-Dibromo-3-chloropropane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2,4-Trichlorobenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2,3-Trichlorobenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V
SUPERFUND DIVISION

DATE:

SUBJECT: Review of Data
Received for Review on: 13 April 2012

FROM: Timothy Prendiville, Supervisor (SR-6J)
Superfund Contract Management Section

TO: Data User: OEPA
Email Address: Victoria.sigler@epa.state.oh.us;
wendy.vorwerk@epa.state.oh.us

Level 3 Data Validation

We have reviewed the data for the following case:

SITE Name: Custom Cleaners (OH)

Case Number: 42381

SDG Number: E5L86

Number and Type of Samples: 6 waters (Trace Volatiles)

Sample Numbers: E5L86 – E5L91

Laboratory: ALS Lab Group - DATAC

Hrs for Review:

Following are our findings:

CC: Howard Pham
Region 5 TPO
Mail Code: SA-5J

Case Number: 42381
Site Name: Custom Cleaners (OH)

Page 2 of 6
SDG Number: E5L86
Laboratory: DATAC

Below is a summary of the out-of-control audits and the possible effects on the data for this case:

Six (6) preserved water samples labeled E5L86 through E5L91 were shipped to ALS Laboratory Group - DATAC located in Salt Lake City, UT. One (1) water sample, E5L91, was collected on March 27, 2012 and the five (5) remaining water samples were collected on March 28, 2012. All samples arrived intact on March 30, 2012 with a shipping temperature of 3 °C, well within the preferred QC range of 2 – 6 °C.

All samples were analyzed according to CLP SOW SOM01.2 and reviewed according to the NFG for SOM01.2 and the SOP for ESAT 5/TechLaw Validation of Contract Laboratory Program Organic Data (Version 2.6).

Sample E5L86 was designated by the samplers to be used for laboratory QC, i.e. MS/MSD analyses.

Sample E5L91 was identified as a trip blank. No other samples were identified as field blanks or field duplicates.

Case Number: 42381
Site Name: Custom Cleaners (OH)

Page 3 of 6
SDG Number: E5L86
Laboratory: DATAC

1. HOLDING TIME

No problems were found.

2. GC/MS TUNING AND GC INSTRUMENT PERFORMANCE

No problems were found.

3. CALIBRATION

The following trace volatile samples are associated with an opening CCV in which a DMC did not meet the percent drift (%D) criteria. Detected and non-detected compounds are not qualified.

E5L86, E5L86MS, E5L86MSD, E5L87, E5L88, E5L89, E5L90, E5L91, VBLKT1,
VHBLKT1
Vinyl chloride-d3

4. BLANKS

The following trace volatile samples have common contaminant analyte concentrations reported less than 2x the CRQL. The associated method blank common contaminant concentration is less than 2x the concentration criteria. Detected compounds are qualified "U". Non-detected compounds are not qualified. Reported sample concentrations have been elevated the 2x the CRQL.

E5L86, E5L86MSD, E5L87, E5L88, E5L89, E5L90, E5L91
Acetone

5. DEUTERATED MONITORING COMPOUND AND SURROGATE RECOVERY

The following trace volatile samples have DMC/SMC recoveries below the lower limit of the criteria window and greater than the expanded limit of 20%. The compounds were not detected in the sample. Non-detected compounds are qualified "UJ".

E5L86
Trichlorofluoromethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, Methyl acetate,
Methylene chloride, Methyl tert-butyl ether, 1,1,1-Trichloroethane,
Carbon tetrachloride, 1,2-Dichloroethane, 1,2-Dibromoethane

6A. MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Sample E5L86 was designated by the samplers to be used for laboratory QC, i.e. matrix spike / matrix spike duplicate analyses.

No problems were found.

Reviewed by: Allison C Harvey / Techlaw-ESAT
Date: April 20, 2012

Case Number: 42381
Site Name: Custom Cleaners (OH)

Page 4 of 6
SDG Number: E5L86
Laboratory: DATAC

6B. LABORATORY CONTROL SAMPLE

Not applicable to these analyses.

7. FIELD BLANK AND FIELD DUPLICATE

Sample E5L91 was identified as a trip blank. Results are summarized in the following table:

| | |
|--------------------|-------|
| Trip Blank | E5L91 |
| Volatile analytes: | µg/L |
| Carbon disulfide | 0.15 |

No other samples were identified as field blanks or field duplicates.

Results are not qualified based upon the results of the field duplicates.

8. INTERNAL STANDARDS

No problems were found.

9. COMPOUND IDENTIFICATION

After reviewing the mass spectra and chromatograms it appears that all VOA compounds were properly identified.

10. COMPOUND QUANTITATION AND REPORTED DETECTION LIMITS

The following trace volatile samples have analyte concentrations below the quantitation limit (CRQL). Detected compounds are qualified "J".

E5L91
Carbon disulfide

VBLKT1
Acetone, 1,2,4-Trichlorobenzene, 1,2,3-Trichlorobenzene

A library search indicates a match below 85% for a TIC compound in the following trace volatile sample. Detected compounds are qualified "J".

E5L88
Unknown 1-Hexanol, 2-ethyl-

11. SYSTEM PERFORMANCE

GC/MS baseline indicated acceptable performance.

Reviewed by: Allison C Harvey / Techlaw-ESAT
Date: April 20, 2012

Case Number: 42381

Site Name: Custom Cleaners (OH)

SDG Number: E5L86

Laboratory: DATAC

12. ADDITIONAL INFORMATION

None.

CADRE Data Qualifier Sheet

| <u>Qualifiers</u> | <u>Data Qualifier Definitions</u> |
|-------------------|---|
| U | The analyte was analyzed for, but was not detected above the reported sample quantitation limit. |
| J | The analyte was positively identified; the associated numerical value is an approximate concentration of the analyte in the sample. |
| UJ | The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the action limit of quantitation necessary to accurately and precisely measure the analyte in the sample. |
| N | The analysis indicates the presence of an analyte for which there is presumptive evidence to make a tentative identification. |
| NJ | The analysis indicates the presence of an analyte for which there is presumptive evidence to make a tentative identification and the associated numerical value represents its approximate concentration. |
| R | The data are unusable. (The compound may or may not be present.) |

Sample Summary Report

| | | | | | | | |
|------------------|-------|-----------|-----------|--------------|----------|--------------|----------|
| Case No: | 42381 | Contract: | EPW11037 | SDG No: | E5L86 | Lab Code: | DATA C |
| Sample Number: | E5L86 | Method: | VOA_Trace | Matrix: | Water | MA Number: | DEFAULT |
| Sample Location: | MW-6 | pH: | 1.0 | Sample Date: | 03282012 | Sample Time: | 14:00:00 |
| % Moisture : | | | | % Solids : | | | |

| Analyte Name | Result | Units | Dilution Factor | Lab Flag | Validation | Reportable | Validation Level |
|---------------------------------------|--------|-------|-----------------|----------|------------|------------|------------------|
| Dichlorodifluoro methane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Chloromethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Vinyl chloride | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Bromomethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Chloroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Trichlorofluorom ethane | 0.50 | ug/L | 1.0 | U | UJ | Yes | |
| 1,1-Dichloroethene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.50 | ug/L | 1.0 | U | UJ | Yes | |
| Acetone | 10 | ug/L | 1.0 | JB | U | Yes | |
| Carbon disulfide | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Methyl acetate | 0.50 | ug/L | 1.0 | U | UJ | Yes | |
| Methylene chloride | 0.50 | ug/L | 1.0 | U | UJ | Yes | |
| trans-1,2-Dichloroethene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Methyl tert-butyl ether | 0.50 | ug/L | 1.0 | U | UJ | Yes | |
| 1,1-Dichloroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| cis-1,2-Dichloroethene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 2-Butanone | 5.0 | ug/L | 1.0 | U | U | Yes | |
| Bromochloromet hane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Chloroform | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,1,1-Trichloroethane | 0.50 | ug/L | 1.0 | U | UJ | Yes | |
| Cyclohexane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Carbon tetrachloride | 0.50 | ug/L | 1.0 | U | UJ | Yes | |
| Benzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2-Dichloroethane | 0.50 | ug/L | 1.0 | U | UJ | Yes | |
| Trichloroethene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Methylcyclohexa ne | 0.50 | ug/L | 1.0 | U | U | Yes | |

| Analyte Name | Result | Units | Dilution Factor | Lab Flag | Validation | Reportable | Validation Level |
|-----------------------------|--------|-------|-----------------|----------|------------|------------|------------------|
| 1,2-Dichloropropane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Bromodichloromethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| cis-1,3-Dichloropropene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 4-Methyl-2-Pentanone | 5.0 | ug/L | 1.0 | U | U | Yes | |
| Toluene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| trans-1,3-Dichloropropene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,1,2-Trichloroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Tetrachloroethene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 2-Hexanone | 5.0 | ug/L | 1.0 | U | U | Yes | |
| Dibromochloromethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2-Dibromoethane | 0.50 | ug/L | 1.0 | U | UJ | Yes | |
| Chlorobenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Ethylbenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| o-Xylene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| m,p-Xylene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Styrene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Bromoform | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Isopropylbenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,1,2,2-Tetrachloroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,3-Dichlorobenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,4-Dichlorobenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2-Dichlorobenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2-Dibromo-3-chloropropane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2,4-Trichlorobenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2,3-Trichlorobenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |

| | | | | | | | |
|------------------|---------|-----------|-----------|--------------|----------|--------------|----------|
| Case No: | 42381 | Contract: | EPW11037 | SDG No: | E5L86 | Lab Code: | DATA C |
| Sample Number: | E5L86MS | Method: | VOA_Trace | Matrix: | Water | MA Number: | DEFAULT |
| Sample Location: | MW-6 | pH: | 1.0 | Sample Date: | 03282012 | Sample Time: | 14:00:00 |
| % Moisture : | | | | % Solids : | | | |

| Analyte Name | Result | Units | Dilution Factor | Lab Flag | Validation | Reportable | Validation Level |
|---------------------------------------|--------|-------|-----------------|----------|------------|------------|------------------|
| Dichlorodifluoro methane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,1-Dichloroethene | 5.1 | ug/L | 1.0 | | | Yes | |
| Benzene | 4.9 | ug/L | 1.0 | | | Yes | |
| Chloromethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Vinyl chloride | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Trichloroethene | 5.2 | ug/L | 1.0 | | | Yes | |
| Bromomethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Toluene | 4.9 | ug/L | 1.0 | | | Yes | |
| Chloroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Chlorobenzene | 5.0 | ug/L | 1.0 | | | Yes | |
| Trichlorofluorom ethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Acetone | 5.0 | ug/L | 1.0 | U | U | Yes | |
| Carbon disulfide | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Methyl acetate | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Methylene chloride | 0.50 | ug/L | 1.0 | U | U | Yes | |
| trans-1,2-Dichloroethene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Methyl tert-butyl ether | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,1-Dichloroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| cis-1,2-Dichloroethene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 2-Butanone | 5.0 | ug/L | 1.0 | U | U | Yes | |
| Bromochloromet hane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Chloroform | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,1,1-Trichloroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Cyclohexane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Carbon tetrachloride | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2-Dichloroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Methylcyclohexa ne | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2-Dichloropropane | 0.50 | ug/L | 1.0 | U | U | Yes | |

| Analyte Name | Result | Units | Dilution Factor | Lab Flag | Validation | Reportable | Validation Level |
|-----------------------------|--------|-------|-----------------|----------|------------|------------|------------------|
| Bromodichloromethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| cis-1,3-Dichloropropene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 4-Methyl-2-Pentanone | 5.0 | ug/L | 1.0 | U | U | Yes | |
| trans-1,3-Dichloropropene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,1,2-Trichloroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Tetrachloroethene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 2-Hexanone | 5.0 | ug/L | 1.0 | U | U | Yes | |
| Dibromochloromethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2-Dibromoethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Ethylbenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| o-Xylene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| m,p-Xylene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Styrene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Bromoform | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Isopropylbenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,1,2,2-Tetrachloroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,3-Dichlorobenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,4-Dichlorobenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2-Dichlorobenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2-Dibromo-3-chloropropane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2,4-Trichlorobenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2,3-Trichlorobenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |

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|------------------|----------|-----------|-----------|--------------|----------|--------------|----------|
| Case No: | 42381 | Contract: | EPW11037 | SDG No: | E5L86 | Lab Code: | DATA |
| Sample Number: | E5L86MSD | Method: | VOA_Trace | Matrix: | Water | MA Number: | DEFAULT |
| Sample Location: | MW-6 | pH: | 1.0 | Sample Date: | 03282012 | Sample Time: | 14:00:00 |
| % Moisture : | | | | % Solids : | | | |

| Analyte Name | Result | Units | Dilution Factor | Lab Flag | Validation | Reportable | Validation Level |
|---------------------------------------|--------|-------|-----------------|----------|------------|------------|------------------|
| Dichlorodifluoro methane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,1-Dichloroethene | 4.8 | ug/L | 1.0 | | | Yes | |
| Chloromethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Benzene | 4.6 | ug/L | 1.0 | | | Yes | |
| Vinyl chloride | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Trichloroethene | 4.9 | ug/L | 1.0 | | | Yes | |
| Bromomethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Toluene | 4.6 | ug/L | 1.0 | | | Yes | |
| Chlorobenzene | 4.8 | ug/L | 1.0 | | | Yes | |
| Chloroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Trichlorofluorom ethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Acetone | 10 | ug/L | 1.0 | JB | U | Yes | |
| Carbon disulfide | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Methyl acetate | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Methylene chloride | 0.50 | ug/L | 1.0 | U | U | Yes | |
| trans-1,2-Dichloroethene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Methyl tert-butyl ether | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,1-Dichloroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| cis-1,2-Dichloroethene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 2-Butanone | 5.0 | ug/L | 1.0 | U | U | Yes | |
| Bromochloromet hane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Chloroform | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,1,1-Trichloroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Cyclohexane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Carbon tetrachloride | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2-Dichloroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Methylcyclohexa ne | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2-Dichloropropane | 0.50 | ug/L | 1.0 | U | U | Yes | |

| Analyte Name | Result | Units | Dilution Factor | Lab Flag | Validation | Reportable | Validation Level |
|-----------------------------|--------|-------|-----------------|----------|------------|------------|------------------|
| Bromodichloromethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| cis-1,3-Dichloropropene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 4-Methyl-2-Pentanone | 5.0 | ug/L | 1.0 | U | U | Yes | |
| trans-1,3-Dichloropropene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,1,2-Trichloroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Tetrachloroethene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 2-Hexanone | 5.0 | ug/L | 1.0 | U | U | Yes | |
| Dibromochloromethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2-Dibromoethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Ethylbenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| o-Xylene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| m,p-Xylene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Styrene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Bromoform | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Isopropylbenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,1,2,2-Tetrachloroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,3-Dichlorobenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,4-Dichlorobenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2-Dichlorobenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2-Dibromo-3-chloropropane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2,4-Trichlorobenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2,3-Trichlorobenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |

| | | | | | | | |
|------------------|-------|-----------|-----------|--------------|----------|--------------|----------|
| Case No: | 42381 | Contract: | EPW11037 | SDG No: | E5L86 | Lab Code: | DATA |
| Sample Number: | E5L87 | Method: | VOA_Trace | Matrix: | Water | MA Number: | DEFAULT |
| Sample Location: | MW-7 | pH: | 1.0 | Sample Date: | 03282012 | Sample Time: | 12:15:00 |
| % Moisture : | | | | % Solids : | | | |

| Analyte Name | Result | Units | Dilution Factor | Lab Flag | Validation | Reportable | Validation Level |
|---------------------------------------|--------|-------|-----------------|----------|------------|------------|------------------|
| Dichlorodifluoro methane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Chloromethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Vinyl chloride | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Bromomethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Chloroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Trichlorofluorom ethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,1-Dichloroethene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Acetone | 10 | ug/L | 1.0 | JB | U | Yes | |
| Carbon disulfide | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Methyl acetate | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Methylene chloride | 0.50 | ug/L | 1.0 | U | U | Yes | |
| trans-1,2-Dichloroethene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Methyl tert-butyl ether | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,1-Dichloroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| cis-1,2-Dichloroethene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 2-Butanone | 5.0 | ug/L | 1.0 | U | U | Yes | |
| Bromochloromet hane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Chloroform | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,1,1-Trichloroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Cyclohexane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Carbon tetrachloride | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Benzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2-Dichloroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Trichloroethene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Methylcyclohexa ne | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2-Dichloropropane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Bromodichlorom ethane | 0.50 | ug/L | 1.0 | U | U | Yes | |

| Analyte Name | Result | Units | Dilution Factor | Lab Flag | Validation | Reportable | Validation Level |
|-----------------------------|--------|-------|-----------------|----------|------------|------------|------------------|
| cis-1,3-Dichloropropene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 4-Methyl-2-Pentanone | 5.0 | ug/L | 1.0 | U | U | Yes | |
| Toluene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| trans-1,3-Dichloropropene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,1,2-Trichloroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Tetrachloroethene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 2-Hexanone | 5.0 | ug/L | 1.0 | U | U | Yes | |
| Dibromochloromethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2-Dibromoethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Chlorobenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Ethylbenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| o-Xylene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| m,p-Xylene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Styrene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Bromoform | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Isopropylbenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,1,2,2-Tetrachloroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,3-Dichlorobenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,4-Dichlorobenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2-Dichlorobenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2-Dibromo-3-chloropropane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2,4-Trichlorobenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2,3-Trichlorobenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |

| | | | | | | | |
|------------------|-------|-----------|-----------|--------------|----------|--------------|----------|
| Case No: | 42381 | Contract: | EPW11037 | SDG No: | E5L86 | Lab Code: | DATA C |
| Sample Number: | E5L88 | Method: | VOA_Trace | Matrix: | Water | MA Number: | DEFAULT |
| Sample Location: | MW-8 | pH: | 1.0 | Sample Date: | 03282012 | Sample Time: | 10:55:00 |
| % Moisture : | | | | % Solids : | | | |

| Analyte Name | Result | Units | Dilution Factor | Lab Flag | Validation | Reportable | Validation Level |
|---------------------------------------|--------|-------|-----------------|----------|------------|------------|------------------|
| Dichlorodifluoro methane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Chloromethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Vinyl chloride | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Bromomethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Chloroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Trichlorofluorom ethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,1-Dichloroethene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Acetone | 10 | ug/L | 1.0 | JB | U | Yes | |
| Carbon disulfide | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Methyl acetate | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Methylene chloride | 0.50 | ug/L | 1.0 | U | U | Yes | |
| trans-1,2-Dichloroethene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Methyl tert-butyl ether | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,1-Dichloroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| cis-1,2-Dichloroethene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 2-Butanone | 5.0 | ug/L | 1.0 | U | U | Yes | |
| Bromochloromet hane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Chloroform | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,1,1-Trichloroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Cyclohexane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Carbon tetrachloride | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Benzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2-Dichloroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Trichloroethene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Methylcyclohexa ne | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2-Dichloropropane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Bromodichlorom ethane | 0.50 | ug/L | 1.0 | U | U | Yes | |

| Analyte Name | Result | Units | Dilution Factor | Lab Flag | Validation | Reportable | Validation Level |
|-----------------------------|--------|-------|-----------------|----------|------------|------------|------------------|
| cis-1,3-Dichloropropene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 4-Methyl-2-Pentanone | 5.0 | ug/L | 1.0 | U | U | Yes | |
| Toluene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| trans-1,3-Dichloropropene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,1,2-Trichloroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Tetrachloroethene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 2-Hexanone | 5.0 | ug/L | 1.0 | U | U | Yes | |
| Dibromochloromethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2-Dibromoethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Chlorobenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Ethylbenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| o-Xylene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| m,p-Xylene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Styrene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Bromoform | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Isopropylbenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,1,2,2-Tetrachloroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,3-Dichlorobenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,4-Dichlorobenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2-Dichlorobenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2-Dibromo-3-chloropropane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2,4-Trichlorobenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2,3-Trichlorobenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |

| | | | | | | | |
|------------------|-------|-----------|-----------|--------------|----------|--------------|----------|
| Case No: | 42381 | Contract: | EPW11037 | SDG No: | E5L86 | Lab Code: | DATA |
| Sample Number: | E5L89 | Method: | VOA_Trace | Matrix: | Water | MA Number: | DEFAULT |
| Sample Location: | MW-9 | pH: | 1.0 | Sample Date: | 03282012 | Sample Time: | 16:17:00 |
| % Moisture : | | | | % Solids : | | | |

| Analyte Name | Result | Units | Dilution Factor | Lab Flag | Validation | Reportable | Validation Level |
|---------------------------------------|--------|-------|-----------------|----------|------------|------------|------------------|
| Dichlorodifluoro methane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Chloromethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Vinyl chloride | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Bromomethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Chloroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Trichlorofluorom ethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,1-Dichloroethene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Acetone | 10 | ug/L | 1.0 | JB | U | Yes | |
| Carbon disulfide | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Methyl acetate | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Methylene chloride | 0.50 | ug/L | 1.0 | U | U | Yes | |
| trans-1,2-Dichloroethene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Methyl tert-butyl ether | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,1-Dichloroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| cis-1,2-Dichloroethene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 2-Butanone | 5.0 | ug/L | 1.0 | U | U | Yes | |
| Bromochloromet hane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Chloroform | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,1,1-Trichloroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Cyclohexane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Carbon tetrachloride | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Benzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2-Dichloroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Trichloroethene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Methylcyclohexa ne | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2-Dichloropropane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Bromodichlorom ethane | 0.50 | ug/L | 1.0 | U | U | Yes | |

| Analyte Name | Result | Units | Dilution Factor | Lab Flag | Validation | Reportable | Validation Level |
|-----------------------------|--------|-------|-----------------|----------|------------|------------|------------------|
| cis-1,3-Dichloropropene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 4-Methyl-2-Pentanone | 5.0 | ug/L | 1.0 | U | U | Yes | |
| Toluene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| trans-1,3-Dichloropropene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,1,2-Trichloroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Tetrachloroethene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 2-Hexanone | 5.0 | ug/L | 1.0 | U | U | Yes | |
| Dibromochloromethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2-Dibromoethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Chlorobenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Ethylbenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| o-Xylene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| m,p-Xylene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Styrene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Bromoform | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Isopropylbenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,1,2,2-Tetrachloroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,3-Dichlorobenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,4-Dichlorobenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2-Dichlorobenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2-Dibromo-3-chloropropane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2,4-Trichlorobenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2,3-Trichlorobenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |

| | | | | | | | |
|------------------|-------|-----------|-----------|--------------|----------|--------------|----------|
| Case No: | 42381 | Contract: | EPW11037 | SDG No: | E5L86 | Lab Code: | DATA C |
| Sample Number: | E5L90 | Method: | VOA_Trace | Matrix: | Water | MA Number: | DEFAULT |
| Sample Location: | MW-10 | pH: | 1.0 | Sample Date: | 03282012 | Sample Time: | 16:20:00 |
| % Moisture : | | | | % Solids : | | | |

| Analyte Name | Result | Units | Dilution Factor | Lab Flag | Validation | Reportable | Validation Level |
|---------------------------------------|--------|-------|-----------------|----------|------------|------------|------------------|
| Dichlorodifluoro methane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Chloromethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Vinyl chloride | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Bromomethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Chloroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Trichlorofluorom ethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,1-Dichloroethene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Acetone | 10 | ug/L | 1.0 | JB | U | Yes | |
| Carbon disulfide | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Methyl acetate | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Methylene chloride | 0.50 | ug/L | 1.0 | U | U | Yes | |
| trans-1,2-Dichloroethene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Methyl tert-butyl ether | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,1-Dichloroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| cis-1,2-Dichloroethene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 2-Butanone | 5.0 | ug/L | 1.0 | U | U | Yes | |
| Bromochloromet hane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Chloroform | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,1,1-Trichloroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Cyclohexane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Carbon tetrachloride | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Benzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2-Dichloroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Trichloroethene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Methylcyclohexa ne | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2-Dichloropropane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Bromodichlorom ethane | 0.50 | ug/L | 1.0 | U | U | Yes | |

| Analyte Name | Result | Units | Dilution Factor | Lab Flag | Validation | Reportable | Validation Level |
|-----------------------------|--------|-------|-----------------|----------|------------|------------|------------------|
| cis-1,3-Dichloropropene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 4-Methyl-2-Pentanone | 5.0 | ug/L | 1.0 | U | U | Yes | |
| Toluene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| trans-1,3-Dichloropropene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,1,2-Trichloroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Tetrachloroethene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 2-Hexanone | 5.0 | ug/L | 1.0 | U | U | Yes | |
| Dibromochloromethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2-Dibromoethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Chlorobenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Ethylbenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| o-Xylene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| m,p-Xylene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Styrene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Bromoform | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Isopropylbenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,1,2,2-Tetrachloroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,3-Dichlorobenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,4-Dichlorobenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2-Dichlorobenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2-Dibromo-3-chloropropane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2,4-Trichlorobenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2,3-Trichlorobenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |

| | | | | | | | |
|------------------|-------|-----------|-----------|--------------|----------|--------------|----------|
| Case No: | 42381 | Contract: | EPW11037 | SDG No: | E5L86 | Lab Code: | DATA C |
| Sample Number: | E5L91 | Method: | VOA_Trace | Matrix: | Water | MA Number: | DEFAULT |
| Sample Location: | TB-1 | pH: | 1.0 | Sample Date: | 03272012 | Sample Time: | 15:00:00 |
| % Moisture : | | | | % Solids : | | | |

| Analyte Name | Result | Units | Dilution Factor | Lab Flag | Validation | Reportable | Validation Level |
|---------------------------------------|--------|-------|-----------------|----------|------------|------------|------------------|
| Dichlorodifluoro methane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Chloromethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Vinyl chloride | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Bromomethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Chloroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Trichlorofluorom ethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,1-Dichloroethene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Acetone | 10 | ug/L | 1.0 | B | U | Yes | |
| Carbon disulfide | 0.15 | ug/L | 1.0 | J | J | Yes | |
| Methyl acetate | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Methylene chloride | 0.50 | ug/L | 1.0 | U | U | Yes | |
| trans-1,2-Dichloroethene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Methyl tert-butyl ether | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,1-Dichloroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| cis-1,2-Dichloroethene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 2-Butanone | 5.0 | ug/L | 1.0 | U | U | Yes | |
| Bromochloromet hane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Chloroform | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,1,1-Trichloroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Cyclohexane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Carbon tetrachloride | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Benzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2-Dichloroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Trichloroethene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Methylcyclohexa ne | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2-Dichloropropane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Bromodichlorom ethane | 0.50 | ug/L | 1.0 | U | U | Yes | |

| Analyte Name | Result | Units | Dilution Factor | Lab Flag | Validation | Reportable | Validation Level |
|-----------------------------|--------|-------|-----------------|----------|------------|------------|------------------|
| cis-1,3-Dichloropropene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 4-Methyl-2-Pentanone | 5.0 | ug/L | 1.0 | U | U | Yes | |
| Toluene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| trans-1,3-Dichloropropene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,1,2-Trichloroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Tetrachloroethene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 2-Hexanone | 5.0 | ug/L | 1.0 | U | U | Yes | |
| Dibromochloromethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2-Dibromoethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Chlorobenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Ethylbenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| o-Xylene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| m,p-Xylene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Styrene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Bromoform | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Isopropylbenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,1,2,2-Tetrachloroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,3-Dichlorobenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,4-Dichlorobenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2-Dichlorobenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2-Dibromo-3-chloropropane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2,4-Trichlorobenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2,3-Trichlorobenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Total Alkanes | | | 1.0 | J | | Yes | |

| | | | | | | | |
|------------------|--------|-----------|-----------|--------------|-------|--------------|---------|
| Case No: | 42381 | Contract: | EPW11037 | SDG No: | E5L86 | Lab Code: | DATA C |
| Sample Number: | VBLKT1 | Method: | VOA_Trace | Matrix: | Water | MA Number: | DEFAULT |
| Sample Location: | | pH: | | Sample Date: | | Sample Time: | |
| % Moisture : | | | | % Solids : | | | |

| Analyte Name | Result | Units | Dilution Factor | Lab Flag | Validation | Reportable | Validation Level |
|---------------------------------------|--------|-------|-----------------|----------|------------|------------|------------------|
| Dichlorodifluoro methane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Chloromethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Vinyl chloride | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Bromomethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Chloroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Trichlorofluorom ethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,1-Dichloroethene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Acetone | 4.9 | ug/L | 1.0 | J | J | Yes | |
| Carbon disulfide | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Methyl acetate | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Methylene chloride | 0.50 | ug/L | 1.0 | U | U | Yes | |
| trans-1,2-Dichloroethene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Methyl tert-butyl ether | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,1-Dichloroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| cis-1,2-Dichloroethene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 2-Butanone | 5.1 | ug/L | 1.0 | | | Yes | |
| Bromochloromet hane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Chloroform | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,1,1-Trichloroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Cyclohexane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Carbon tetrachloride | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Benzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2-Dichloroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Trichloroethene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Methylcyclohexa ne | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2-Dichloropropane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Bromodichlorom ethane | 0.50 | ug/L | 1.0 | U | U | Yes | |

| Analyte Name | Result | Units | Dilution Factor | Lab Flag | Validation | Reportable | Validation Level |
|-----------------------------|--------|-------|-----------------|----------|------------|------------|------------------|
| cis-1,3-Dichloropropene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 4-Methyl-2-Pentanone | 5.0 | ug/L | 1.0 | U | U | Yes | |
| Toluene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| trans-1,3-Dichloropropene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,1,2-Trichloroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Tetrachloroethene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 2-Hexanone | 5.0 | ug/L | 1.0 | U | U | Yes | |
| Dibromochloromethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2-Dibromoethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Chlorobenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Ethylbenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| o-Xylene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| m,p-Xylene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Styrene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Bromoform | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Isopropylbenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,1,2,2-Tetrachloroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,3-Dichlorobenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,4-Dichlorobenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2-Dichlorobenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2-Dibromo-3-chloropropane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2,4-Trichlorobenzene | 0.18 | ug/L | 1.0 | J | J | Yes | |
| 1,2,3-Trichlorobenzene | 0.46 | ug/L | 1.0 | J | J | Yes | |

| | | | | | | | |
|------------------|---------|-----------|-----------|--------------|-------|--------------|---------|
| Case No: | 42381 | Contract: | EPW11037 | SDG No: | E5L86 | Lab Code: | DATA C |
| Sample Number: | VHBLKT1 | Method: | VOA_Trace | Matrix: | Water | MA Number: | DEFAULT |
| Sample Location: | | pH: | | Sample Date: | | Sample Time: | |
| % Moisture : | | | | % Solids : | | | |

| Analyte Name | Result | Units | Dilution Factor | Lab Flag | Validation | Reportable | Validation Level |
|---------------------------------------|--------|-------|-----------------|----------|------------|------------|------------------|
| Dichlorodifluoro methane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Chloromethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Vinyl chloride | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Bromomethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Chloroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Trichlorofluorom ethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,1-Dichloroethene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Acetone | 5.0 | ug/L | 1.0 | U | U | Yes | |
| Carbon disulfide | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Methyl acetate | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Methylene chloride | 0.50 | ug/L | 1.0 | U | U | Yes | |
| trans-1,2-Dichloroethene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Methyl tert-butyl ether | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,1-Dichloroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| cis-1,2-Dichloroethene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 2-Butanone | 5.0 | ug/L | 1.0 | U | U | Yes | |
| Bromochloromet hane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Chloroform | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,1,1-Trichloroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Cyclohexane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Carbon tetrachloride | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Benzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2-Dichloroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Trichloroethene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Methylcyclohexa ne | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2-Dichloropropane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Bromodichlorom ethane | 0.50 | ug/L | 1.0 | U | U | Yes | |

| Analyte Name | Result | Units | Dilution Factor | Lab Flag | Validation | Reportable | Validation Level |
|-----------------------------|--------|-------|-----------------|----------|------------|------------|------------------|
| cis-1,3-Dichloropropene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 4-Methyl-2-Pentanone | 5.0 | ug/L | 1.0 | U | U | Yes | |
| Toluene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| trans-1,3-Dichloropropene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,1,2-Trichloroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Tetrachloroethene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 2-Hexanone | 5.0 | ug/L | 1.0 | U | U | Yes | |
| Dibromochloromethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2-Dibromoethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Chlorobenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Ethylbenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| o-Xylene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| m,p-Xylene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Styrene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Bromoform | 0.50 | ug/L | 1.0 | U | U | Yes | |
| Isopropylbenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,1,2,2-Tetrachloroethane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,3-Dichlorobenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,4-Dichlorobenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2-Dichlorobenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2-Dibromo-3-chloropropane | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2,4-Trichlorobenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |
| 1,2,3-Trichlorobenzene | 0.50 | ug/L | 1.0 | U | U | Yes | |

Appendix F

Analytical Results – Sub Slab & Indoor Air



TechLaw Inc ESAT Region 5
536 South Clark Street, Suite 734
Chicago, IL 60605
(312) 353-2964
(312) 353-8307 (Fax)
www.techlawinc.com

Print Date: 6/18/2012

Subject: Review of Region 5 Data for Custom Cleaners

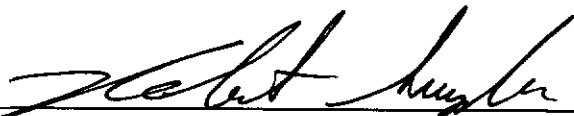
From: Matt Kobus, Chemist *note 6-18-12*
Contractor to Region 5 Central Regional Laboratory
Submitted to CRL on

To: Superfund, US EPA Region 5
77 West Jackson Boulevard
Chicago, IL 60604

Attached are Results for: Custom Cleaners

Analyses included in this report:

Air Toxics R



6/27/12

Data Management Coordinator and Date Received

Date Transmitted: 6/28/12

Please have the U.S. EPA Project Manager/Officer call the CRL Sample Coordinator at 3-7444 for any comments or questions.

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
ML-10C

_____/____/____
Received by and Date

Comments:



105 W. Madison Street, Suite 900
Chicago, IL 60602
(312) 345-8990
(312) 345-8979 (Fax)
www.techlawinc.com

WORK ORDER

Printed: 6/1/2012 11:31:42AM

E120601

TechLaw - ESAT Contract

Client: Superfund, US EPA Region 5
Project: Custom Cleaners

Project Manager: James D. Burden
Project Number: [none]

Report To:

Chi Tang
Superfund, US EPA Region 5

77 West Jackson Boulevard
Chicago, IL 60604

Phone: (312) 353-2310
Fax: (312) 886-6171

Date Due: Jul-01-12 15:00 (30 day TAT)

Received By: Stephen Connet

Date Received: Jun-01-12 10:55

Logged In By: Stephen Connet

Date Logged In: Jun-01-12 11:15

Samples Received at: 4°C
Custody Seals: Yes
Containers Intact: Yes
COC/Labels Agree: No
Preservation Confirmed: No

| Analysis | Due | TAT | Expires | Comments |
|---|-----------------|-----|-----------------|--------------------------------------|
| E120601-01 BF-A-1 [Air] Sampled May-30-12 16:40 Eastern | | | | canister 0106 regulator #3485 |
| Air Toxics R | Jul-01-12 12:00 | 30 | Jun-29-12 15:40 | start: -29 end: 0 |
| E120601-02 SL-A-2 [Air] Sampled May-30-12 16:16 Eastern | | | | canister 0113 regulator #1703 |
| Air Toxics R | Jul-01-12 12:00 | 30 | Jun-29-12 15:16 | start: -32 end: -4.5 |
| E120601-03 SL-P-2 [Air] Sampled May-30-12 16:14 Eastern | | | | canister 0114 regulator #1684 |
| Air Toxics R | Jul-01-12 12:00 | 30 | Jun-29-12 15:14 | start: -30 end: -1 |
| E120601-04 BF-P-1 [Air] Sampled May-30-12 16:04 Eastern | | | | canister 0130 regulator #1705 |
| Air Toxics R | Jul-01-12 12:00 | 30 | Jun-29-12 15:04 | start: -29 end: -0.2 |
| E120601-05 SL-A-1 [Air] Sampled May-30-12 16:12 Eastern | | | | canister 0509 regulator #3489 |
| Air Toxics R | Jul-01-12 12:00 | 30 | Jun-29-12 15:12 | start: -29 end: -0.1 |
| E120601-06 SL-P-1R [Air] Sampled May-30-12 16:10 Eastern | | | | canister 0638 regulator #1707 |
| Air Toxics R | Jul-01-12 12:00 | 30 | Jun-29-12 15:10 | start: -30 end: -0.1 |
| E120601-07 Ambient [Air] Sampled May-30-12 16:33 Eastern | | | | canister 0103 regulator #3478 |
| Air Toxics R | Jul-01-12 12:00 | 30 | Jun-29-12 15:33 | start: -28 end: -5.5 |
| E120601-08 CC-A-1 [Air] Sampled May-30-12 16:20 Eastern | | | | canister 0104 regulator #2316 |
| Air Toxics R | Jul-01-12 12:00 | 30 | Jun-29-12 15:20 | start: -28 end: 0 |

WORK ORDER

Printed: 6/1/2012 11:31:42AM

E120601

TechLaw - ESAT Contract

Client: Superfund, US EPA Region 5
Project: Custom Cleaners

Project Manager: James D. Burden
Project Number: [none]

| Analysis | Due | TAT | Expires | Comments |
|---|-----------------|-----|-----------------|-------------------------------|
| E120601-09 CC-A-2 [Air] Sampled May-30-12 16:22 Eastern | | | | canister 0145 regulator #1702 |
| Air Toxics R | Jul-01-12 12:00 | 30 | Jun-29-12 15:22 | start: -30 end: -2 |
| E120601-10 CC-A-3 [Air] Sampled May-30-12 16:21 Eastern | | | | canister 0631 regulator #1706 |
| Air Toxics R | Jul-01-12 12:00 | 30 | Jun-29-12 15:21 | start: -29 end: -0.1 |
| E120601-11 CC-E-1 [Air] Sampled May-30-12 16:26 Eastern | | | | canister 0635 regulator #1697 |
| Air Toxics R | Jul-01-12 12:00 | 30 | Jun-29-12 15:26 | start: -30 end: -3.5 |

CASE NARRATIVE

DATE: 6/18/2012

PROJECT NAME: Data Set E120601, Air Toxics for Custom Cleaners site

ANALYST: Matthew Kobus, ESAT *mtk 6/20/12*

I CASE DESCRIPTION:

This case consists of eleven (11) air samples sampled on May 30, 2012 from Custom Cleaners for Air Toxics analysis. The ESAT LIMS numbers are E120601-01 through E120601-11. Samples E120601-01 through E120601-11 were analyzed for Air Toxics on instrument Mario by CRL SOP MS005. The samples were analyzed on June 06 through June 08, 2012. Holding time requirements of thirty days were met.

II METHOD QUALITY CONTROL:

1. Initial Calibration:

An acceptable instrument calibration is required before samples can be analyzed. The current QC criteria for acceptable initial calibration states that each analytes %D must be $\leq 20\%$ for each compound at each calibration level with the exception of the 25 pptv and the 50 pptv level (reporting level standard) which is required to be $\leq 50\%$. An initial calibration (FS_R4_120604_XS.M) was performed on June 04, 2012 by ESAT and was used for all reported samples. Isobutene, Carbon disulfide, Toluene and Tetrachloroethene were calculated using a linear regression calibration fit. All other compounds are calculated using a quadratic fit forcing zero. A second calibration (FS_R4_120613_XS.M) was analyzed for Propene dilutions (sample E120601-02 40X) on June 13, 2012.

All reported compounds were acceptable for all calibration levels with the exception of the following compounds:

Method (FS_R4_120604_XS.M):

In Level 2 (50pptv): Acetone (238.4%), Pentane (65.2%), Butanal (53.1%), Hexane (81.3%), and Pentanal (57%).

In Level 3 (125pptv): 2-Propanol (32.0%) and 1,4-Dioxane (29.8%).

Hits for these compounds will be flagged "J", non-detects will be flagged "UJ".

2. Initial Calibration Verification:

Calibration Curve Method "FS_R4_120604_XS.M"

The initial calibration verification (ICV) check standard was within the $\pm 30\%$ tolerance established for the analysis in the SOP with the exception of Vinyl Chloride (32%) and Styrene (121%).

Hits for these compounds will be flagged "J", non-detects will be flagged "UJ".

3. Continuing Calibration Verification/Blank Spikes

The opening and closing CCV's were run and reported as the blank spike / blank spike duplicates. All CCV compounds are required to be within the limit of $\pm 20\%$ for all reported compounds. All compounds were acceptable with the following exceptions:

In the opening CCV (EF20601-BS1) run on 06/06/2012 at 11:32, Isobutene (26%) and Carbon disulfide (29%) were outside criteria.

In the closing CCV (EF20601-BSD1) run on 06/07/2012 at 00:59, 2-Propanol (29%) was outside criteria.

Associated samples will be qualified "J" for detected compounds and "UJ" for non-detected compounds.

4. Method Blank Results

A method blank of humidified zero air was run with each batch to check the process for contamination. The method blanks were below the reporting limit for all reported compounds with the exceptions of Carbon disulfide: In EF20601-BLK1 Carbon disulfide is (121.5 pptv). In EF20802-BLK1 Carbon disulfide is (60.0 pptv).

Hits for these compounds above the reporting limit in the associated field samples within 3X of the blank level are elevated to that level and flagged "U".

5. Surrogate Recovery

Method MS005 does not add surrogates to the samples for analysis. The levels of certain compounds known to be in the earth's atmosphere are monitored for the low level analysis. The atmospheric recovery limits are not applicable to the sub-slab soil gas samples. None of the air samples have more than two surrogate recoveries outside the atmospheric recovery limits. No qualifications were necessary.

6. Method Duplicate

A method sample duplicate was analyzed with each batch of samples, with the exception of the dilution analyzed for Propene on June 14, 2012 (batch EF21401). Overall precision was within the limits.

III SAMPLE RESULTS:

All quality control measures not specifically discussed in this narrative met quality criteria stated in the SOP.

The LIMS report for all samples have the oxygenate compounds (listed below) flagged as “J”, as they are being reported as tentatively quantitative compounds. A calibration curve for these analytes was run from the Reimer 4 standard used for calibration, but these compounds are not considered to be as quantitative due to poorer overall response. The compounds affected are: Acetone, Carbon Disulfide, Methyl-tertiary-butyl-ether (MTBE), 1,4-Dioxane, 4-Methyl-2-pentanone, 2 and 3-Pentanone, 2 and 3-Hexanone, Methyl vinyl ketone, Propanal, Butanal and Methyl-ethyl ketone. Positive results for these compounds will be flagged “J”, non-detects will be flagged “UJ”.

EF20601-BLK1, EF20801-BLK1, EF20802-BLK1 and EF21401-BLK1 are a zero air method blank for each day of analysis in this data set.

EF20601-BS1 -BSD1, EF20801-BS1 -BSD1, EF20802-BS1 -BSD1 and EF21401-BS1 -BSD1 are 400 cc blank spikes of the Reimer 4 calibration standard at 100X.

Samples E120601-04 20X dilution, E120601-07 and E120601-11 5X dilution were analyzed as duplicates and reported as EF20601-DUP1, EF20801-DUP1 and EF20802-DUP1.

Sample E120601-05 (20X) is missing the “Before” manual integration for Ethanol. Ethanol is not reported.

Analytical data packages prepared by the EPA Region 5 Chicago Regional Laboratory (CRL) or the Superfund ESAT contractors are verified in accordance with the CRL Quality Management Plan or ESAT Quality Management Plan, respectively. CRL and ESAT data reports in the final analytical data package include the data qualifiers assigned through our data verification processes. This includes an explanation of the data qualifiers assigned by the scientists who performed the analyses, as well as, the chemist that conducted the data verification. This report narrative, which explains quality control outliers and other significant issues affecting data quality, is also provided. This information constitutes the Region 5 CRL and ESAT processes that are equivalent to the data validation report provided with Contract Laboratory Program (CLP) data packages.

Manual Calculation for Tetrachloroethene in Sample E120601-01 (2X) 200cc injection run
6/12/12 at 22:55.

The calculated on column value is: $332.04 \text{ pptv} \times (400 \text{ cc standard volume} / 200 \text{ cc actual sample volume}) = 664.08 \text{ pptv}$ final value, which rounds to 664 pptv. The reported value on the LIMS report is 664 pptv.



TechLaw Inc ESAT Region 5
536 South Clark Street, Suite 734
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(312) 353-8307 (Fax)
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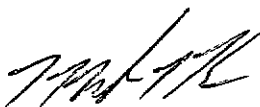
Superfund, US EPA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Custom Cleaners
Project Number: [none]
Project Manager: Chi Tang

Reported:
Jun-20-12 08:00

ANALYTICAL REPORT FOR SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled | Date Received |
|-----------|---------------|--------|-----------------|-----------------|
| BF-A-1 | E120601-01 | Air | May-30-12 16:40 | Jun-01-12 10:55 |
| SL-A-2 | E120601-02 | Air | May-30-12 16:16 | Jun-01-12 10:55 |
| SL-P-2 | E120601-03 | Air | May-30-12 16:14 | Jun-01-12 10:55 |
| BF-P-1 | E120601-04 | Air | May-30-12 16:04 | Jun-01-12 10:55 |
| SL-A-1 | E120601-05 | Air | May-30-12 16:12 | Jun-01-12 10:55 |
| SL-P-1R | E120601-06 | Air | May-30-12 16:10 | Jun-01-12 10:55 |
| Ambient | E120601-07 | Air | May-30-12 16:33 | Jun-01-12 10:55 |
| CC-A-1 | E120601-08 | Air | May-30-12 16:20 | Jun-01-12 10:55 |
| CC-A-2 | E120601-09 | Air | May-30-12 16:22 | Jun-01-12 10:55 |
| CC-A-3 | E120601-10 | Air | May-30-12 16:21 | Jun-01-12 10:55 |
| CC-E-1 | E120601-11 | Air | May-30-12 16:26 | Jun-01-12 10:55 |


Matt Kobus, Chemist

Report Name: E120601 FINAL Jun 20 12 0800

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TechLaw Inc ESAT Region 5
536 South Clark Street, Suite 734
Chicago, IL 60605
(312) 353-2964
(312) 353-8307 (Fax)
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Superfund, US EPA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Custom Cleaners
Project Number: [none]
Project Manager: Chi Tang

Reported:
Jun-20-12 08:00

Air Toxics by GC/MS TechLaw - ESAT Contract

BF-A-1 (E120601-01) Air Sampled: May-30-12 16:40 Received: Jun-01-12 10:55

| Analyte | Result | Flags / Qualifiers | MDL | Limit | Units | Dilution | Batch | Prepared | Analyzed |
|---------------------------------------|--------|-----------------------|-----|-------|-------|----------|---------|-----------|-----------|
| 1,1,1-Trichloroethane | U | | | 100 | PPTV | 2 | EF20601 | Jun-06-12 | Jun-06-12 |
| 1,1,2,2-Tetrachloroethane | U | | | 100 | " | " | " | " | " |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | U | | | 100 | " | " | " | " | " |
| 1,1,2-Trichloroethane | U | | | 100 | " | " | " | " | " |
| 1,1-Dichloroethane | U | | | 100 | " | " | " | " | " |
| 1,1-Dichloroethene | U | | | 100 | " | " | " | " | " |
| 1,2,3-Trimethylbenzene | 234 | | | 100 | " | " | " | " | " |
| 1,2,4-Trichlorobenzene | U | | | 100 | " | " | " | " | " |
| 1,2,4-Trimethylbenzene | 929 | | | 100 | " | " | " | " | " |
| 1,2-Dibromoethane (EDB) | U | | | 100 | " | " | " | " | " |
| 1,2-Dichlorobenzene | U | | | 100 | " | " | " | " | " |
| 1,2-Dichloroethane | U | | | 100 | " | " | " | " | " |
| 1,2-Dichloropropane | U | | | 100 | " | " | " | " | " |
| 1,3,5-Trimethylbenzene | 224 | | | 100 | " | " | " | " | " |
| 1,3-Butadiene | U | | | 100 | " | " | " | " | " |
| 1,3-Dichlorobenzene | U | | | 100 | " | " | " | " | " |
| 1,4-Dichlorobenzene | U | | | 100 | " | " | " | " | " |
| 1,4-Dioxane | U | J | | 100 | " | " | " | " | " |
| 1-Butanol | 1180 | | | 100 | " | " | " | " | " |
| 1-Propanol | 455 | | | 100 | " | " | " | " | " |
| 2-Hexanone | U | J | | 100 | " | " | " | " | " |
| 2-Pentanone | U | J | | 100 | " | " | " | " | " |
| 2-Propanol | 17800 | J | | 1000 | " | 20 | " | " | Jun-06-12 |
| 3-Hexanone | U | J | | 100 | " | 2 | " | " | Jun-06-12 |
| 3-Pentanone | U | J | | 100 | " | " | " | " | " |
| 4-Methyl-2-pentanone | U | J | | 100 | " | " | " | " | " |
| Acetone | 18000 | J | | 1000 | " | 20 | " | " | Jun-06-12 |
| Acetonitrile | 385 | | | 100 | " | 2 | " | " | Jun-06-12 |
| Acrolein | 1860 | | | 100 | " | " | " | " | " |
| Benzene | 910 | | | 100 | " | " | " | " | " |
| Benzyl chloride | U | | | 100 | " | " | " | " | " |
| Bromodichloromethane | U | | | 100 | " | " | " | " | " |
| Bromoform | U | | | 100 | " | " | " | " | " |
| Bromomethane | U | | | 100 | " | " | " | " | " |
| Butanal | 694 | J | | 100 | " | " | " | " | " |
| Carbon disulfide | U | J | | 100 | " | " | " | " | " |

Matt Kobus 6-20-12
Matt Kobus, Chemist

Report Name: E120601 FINAL Jun 20 12 0800

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000006

Superfund, US EPA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Custom Cleaners
Project Number: [none]
Project Manager: Chi Tang

Reported:
Jun-20-12 08:00

Air Toxics by GC/MS
TechLaw - ESAT Contract

BF-A-1 (E120601-01) Air Sampled: May-30-12 16:40 Received: Jun-01-12 10:55

| Analyte | Result | Flags / Qualifiers | MDL | Limit | Units | Dilution | Batch | Prepared | Analyzed |
|---------------------------|--------|-----------------------|-----|-------|-------|----------|---------|-----------|-----------|
| Carbon Tetrachloride | U | | | 100 | PPTV | 2 | EF20601 | Jun-06-12 | Jun-06-12 |
| Chlorobenzene | U | | | 100 | " | " | " | " | " |
| Chlorodifluoromethane | 1260 | | | 100 | " | " | " | " | " |
| Chloroethane | U | | | 100 | " | " | " | " | " |
| Chloroform | 133 | | | 100 | " | " | " | " | " |
| Chloromethane | 520 | | | 100 | " | " | " | " | " |
| cis-1,2-Dichloroethene | U | | | 100 | " | " | " | " | " |
| cis-1,3-Dichloropropene | U | | | 100 | " | " | " | " | " |
| Cyclohexane | 1170 | | | 100 | " | " | " | " | " |
| Cyclopentane | 123 | | | 100 | " | " | " | " | " |
| Dichlorodifluoromethane | 495 | | | 100 | " | " | " | " | " |
| Dichlorotetrafluoroethane | U | | | 100 | " | " | " | " | " |
| Ethylbenzene | 674 | | | 100 | " | " | " | " | " |
| Isobutene | 247 | J | | 100 | " | " | " | " | " |
| Isoprene | 764 | | | 100 | " | " | " | " | " |
| m,p-Xylene | 2340 | | | 100 | " | " | " | " | " |
| Methacrolein | 141 | | | 100 | " | " | " | " | " |
| Methyl ethyl ketone | 773 | J | | 100 | " | " | " | " | " |
| Methyl iodide | U | | | 100 | " | " | " | " | " |
| Methyl tert-butyl ether | U | J | | 100 | " | " | " | " | " |
| Methyl vinyl ketone | 386 | J | | 100 | " | " | " | " | " |
| Methylene chloride | 107 | | | 100 | " | " | " | " | " |
| n-Hexane | 1370 | J | | 100 | " | " | " | " | " |
| o-Xylene | 929 | | | 100 | " | " | " | " | " |
| Pentanal | U | J | | 100 | " | " | " | " | " |
| Pentane | 4760 | J | | 1000 | " | 20 | " | " | Jun-06-12 |
| Propanal | 1470 | J | | 100 | " | 2 | " | " | Jun-06-12 |
| Propene | 5770 | | | 1000 | " | 20 | " | " | Jun-06-12 |
| Styrene | 302 | J | | 100 | " | 2 | " | " | Jun-06-12 |
| Tetrachloroethene | 664 | | | 100 | " | " | " | " | " |
| Toluene | 4500 | | | 1000 | " | 20 | " | " | Jun-06-12 |
| trans-1,3-Dichloropropene | U | | | 100 | " | 2 | " | " | Jun-06-12 |
| Trichloroethene | U | | | 100 | " | " | " | " | " |
| Trichlorofluoromethane | 236 | | | 100 | " | " | " | " | " |
| Vinyl chloride | U | J | | 100 | " | " | " | " | " |

Matt Kobus 6-20-12
Matt Kobus, Chemist

Report Name: E120601 FINAL Jun 20 12 0800

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Superfund, US EPA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Custom Cleaners
Project Number: [none]
Project Manager: Chi Tang

Reported:
Jun-20-12 08:00

Air Toxics by GC/MS
TechLaw - ESAT Contract

SL-A-2 (E120601-02) Air Sampled: May-30-12 16:16 Received: Jun-01-12 10:55

| Analyte | Result | Flags / Qualifiers | MDL | Limit | Units | Dilution | Batch | Prepared | Analyzed |
|---------------------------------------|--------|-----------------------|-----|-------|-------|----------|---------|-----------|-----------|
| 1,1,1-Trichloroethane | U | | | 100 | PPTV | 2 | EF20601 | Jun-06-12 | Jun-06-12 |
| 1,1,2,2-Tetrachloroethane | U | | | 100 | " | " | " | " | " |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | U | | | 100 | " | " | " | " | " |
| 1,1,2-Trichloroethane | U | | | 100 | " | " | " | " | " |
| 1,1-Dichloroethane | U | | | 100 | " | " | " | " | " |
| 1,1-Dichloroethene | U | | | 100 | " | " | " | " | " |
| 1,2,3-Trimethylbenzene | 126 | | | 100 | " | " | " | " | " |
| 1,2,4-Trichlorobenzene | U | | | 100 | " | " | " | " | " |
| 1,2,4-Trimethylbenzene | 346 | | | 100 | " | " | " | " | " |
| 1,2-Dibromoethane (EDB) | U | | | 100 | " | " | " | " | " |
| 1,2-Dichlorobenzene | U | | | 100 | " | " | " | " | " |
| 1,2-Dichloroethane | U | | | 100 | " | " | " | " | " |
| 1,2-Dichloropropane | U | | | 100 | " | " | " | " | " |
| 1,3,5-Trimethylbenzene | U | | | 100 | " | " | " | " | " |
| 1,3-Butadiene | U | | | 100 | " | " | " | " | " |
| 1,3-Dichlorobenzene | U | | | 100 | " | " | " | " | " |
| 1,4-Dichlorobenzene | U | | | 100 | " | " | " | " | " |
| 1,4-Dioxane | U | J | | 100 | " | " | " | " | " |
| 1-Butanol | 192 | | | 100 | " | " | " | " | " |
| 1-Propanol | 401 | | | 100 | " | " | " | " | " |
| 2-Hexanone | U | J | | 100 | " | " | " | " | " |
| 2-Pentanone | 423 | J | | 100 | " | " | " | " | " |
| 2-Propanol | 12300 | J | | 1000 | " | 20 | " | " | Jun-06-12 |
| 3-Hexanone | U | J | | 100 | " | 2 | " | " | Jun-06-12 |
| 3-Pentanone | U | J | | 100 | " | " | " | " | " |
| 4-Methyl-2-pentanone | U | J | | 100 | " | " | " | " | " |
| Acetone | 14300 | J | | 1000 | " | 20 | " | " | Jun-06-12 |
| Acetonitrile | 457 | | | 100 | " | 2 | " | " | Jun-06-12 |
| Acrolein | 1020 | | | 100 | " | " | " | " | " |
| Benzene | 503 | | | 100 | " | " | " | " | " |
| Benzyl chloride | U | | | 100 | " | " | " | " | " |
| Bromodichloromethane | U | | | 100 | " | " | " | " | " |
| Bromoform | U | | | 100 | " | " | " | " | " |
| Bromomethane | U | | | 100 | " | " | " | " | " |
| Butanal | 820 | J | | 100 | " | " | " | " | " |

Matt Kobus
Matt Kobus, Chemist

Report Name: E120601 FINAL Jun 20 12 0800

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000008

Superfund, US EPA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Custom Cleaners
Project Number: [none]
Project Manager: Chi Tang

Reported:
Jun-20-12 08:00

Air Toxics by GC/MS

TechLaw - ESAT Contract

SL-A-2 (E120601-02) Air Sampled: May-30-12 16:16 Received: Jun-01-12 10:55

| Analyte | Result | Flags / Qualifiers | MDL | Limit | Units | Dilution | Batch | Prepared | Analyzed |
|---------------------------|--------|-----------------------|-----|-------|-------|----------|---------|-----------|-----------|
| Carbon disulfide | U | J | | 100 | PPTV | 2 | EF20601 | Jun-06-12 | Jun-06-12 |
| Carbon Tetrachloride | U | | | 100 | " | " | " | " | " |
| Chlorobenzene | U | | | 100 | " | " | " | " | " |
| Chlorodifluoromethane | 5820 | | | 1000 | " | 20 | " | " | Jun-06-12 |
| Chloroethane | U | | | 100 | " | 2 | " | " | Jun-06-12 |
| Chloroform | 394 | | | 100 | " | " | " | " | " |
| Chloromethane | 619 | | | 100 | " | " | " | " | " |
| cis-1,2-Dichloroethene | U | | | 100 | " | " | " | " | " |
| cis-1,3-Dichloropropene | U | | | 100 | " | " | " | " | " |
| Cyclohexane | 193 | | | 100 | " | " | " | " | " |
| Cyclopentane | 283 | | | 100 | " | " | " | " | " |
| Dichlorodifluoromethane | 672 | | | 100 | " | " | " | " | " |
| Dichlorotetrafluoroethane | U | | | 100 | " | " | " | " | " |
| Ethylbenzene | 942 | | | 100 | " | " | " | " | " |
| Isobutene | 446 | J | | 100 | " | " | " | " | " |
| Isoprene | 876 | | | 100 | " | " | " | " | " |
| m,p-Xylene | 2370 | | | 100 | " | " | " | " | " |
| Methacrolein | 198 | | | 100 | " | " | " | " | " |
| Methyl ethyl ketone | 1280 | J | | 100 | " | " | " | " | " |
| Methyl iodide | U | | | 100 | " | " | " | " | " |
| Methyl tert-butyl ether | U | J | | 100 | " | " | " | " | " |
| Methyl vinyl ketone | 437 | J | | 100 | " | " | " | " | " |
| Methylene chloride | U | | | 100 | " | " | " | " | " |
| n-Hexane | 423 | J | | 100 | " | " | " | " | " |
| o-Xylene | 650 | | | 100 | " | " | " | " | " |
| Pentanal | 1030 | J | | 100 | " | " | " | " | " |
| Pentane | 4920 | J | | 1000 | " | 20 | " | " | Jun-06-12 |
| Propanal | 1680 | J | | 100 | " | 2 | " | " | Jun-06-12 |
| Propene | 37900 | | | 2000 | " | 40 | " | " | Jun-14-12 |
| Styrene | 1370 | J | | 100 | " | 2 | " | " | Jun-06-12 |
| Tetrachloroethene | 194 | | | 100 | " | " | " | " | " |
| Toluene | 1830 | | | 1000 | " | 20 | " | " | Jun-06-12 |
| trans-1,3-Dichloropropene | U | | | 100 | " | 2 | " | " | Jun-06-12 |
| Trichloroethene | U | | | 100 | " | " | " | " | " |
| Trichlorofluoromethane | 475 | | | 100 | " | " | " | " | " |



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536 South Clark Street, Suite 734
Chicago, IL 60605
(312) 353-2964
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Superfund, US EPA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Custom Cleaners
Project Number: [none]
Project Manager: Chi Tang

Reported:
Jun-20-12 08:00


Air Toxics by GC/MS
TechLaw - ESAT Contract

SL-A-2 (E120601-02) Air Sampled: May-30-12 16:16 Received: Jun-01-12 10:55

| Analyte | Result | Flags / Qualifiers | MDL | Limit | Units | Dilution | Batch | Prepared | Analyzed |
|----------------|--------|-----------------------|-----|-------|-------|----------|---------|-----------|-----------|
| Vinyl chloride | U | J | | 100 | PPTV | 2 | EF20601 | Jun-06-12 | Jun-06-12 |

SL-P-2 (E120601-03) Air Sampled: May-30-12 16:14 Received: Jun-01-12 10:55

| Analyte | Result | Flags / Qualifiers | MDL | Limit | Units | Dilution | Batch | Prepared | Analyzed |
|---------------------------------------|--------|-----------------------|-----|-------|-------|----------|---------|-----------|-----------|
| 1,1,1-Trichloroethane | U | | | 250 | PPTV | 5 | EF20601 | Jun-06-12 | Jun-07-12 |
| 1,1,2,2-Tetrachloroethane | U | | | 250 | " | " | " | " | " |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | U | | | 250 | " | " | " | " | " |
| 1,1,2-Trichloroethane | U | | | 250 | " | " | " | " | " |
| 1,1-Dichloroethane | U | | | 250 | " | " | " | " | " |
| 1,1-Dichloroethene | U | | | 250 | " | " | " | " | " |
| 1,2,3-Trimethylbenzene | 552 | | | 250 | " | " | " | " | " |
| 1,2,4-Trichlorobenzene | U | | | 250 | " | " | " | " | " |
| 1,2,4-Trimethylbenzene | 2210 | | | 250 | " | " | " | " | " |
| 1,2-Dibromoethane (EDB) | U | | | 250 | " | " | " | " | " |
| 1,2-Dichlorobenzene | U | | | 250 | " | " | " | " | " |
| 1,2-Dichloroethane | U | | | 250 | " | " | " | " | " |
| 1,2-Dichloropropane | U | | | 250 | " | " | " | " | " |
| 1,3,5-Trimethylbenzene | 583 | | | 250 | " | " | " | " | " |
| 1,3-Butadiene | U | | | 250 | " | " | " | " | " |
| 1,3-Dichlorobenzene | U | | | 250 | " | " | " | " | " |
| 1,4-Dichlorobenzene | U | | | 250 | " | " | " | " | " |
| 1,4-Dioxane | U | J | | 250 | " | " | " | " | " |
| 1-Butanol | U | | | 250 | " | " | " | " | " |
| 1-Propanol | U | | | 250 | " | " | " | " | " |
| 2-Hexanone | U | J | | 250 | " | " | " | " | " |
| 2-Pentanone | U | J | | 250 | " | " | " | " | " |
| 2-Propanol | 2400 | J | | 250 | " | " | " | " | " |
| 3-Hexanone | U | J | | 250 | " | " | " | " | " |
| 3-Pentanone | U | J | | 250 | " | " | " | " | " |
| 4-Methyl-2-pentanone | U | J | | 250 | " | " | " | " | " |
| Acetone | 1700 | J | | 250 | " | " | " | " | " |
| Acetonitrile | U | | | 250 | " | " | " | " | " |
| Acrolein | U | | | 250 | " | " | " | " | " |
| Benzene | U | | | 250 | " | " | " | " | " |


Matt Kobus, Chemist

Report Name: E120601 FINAL Jun 20 12 0800
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Superfund, US EPA Region 5
77 West Jackson Boulevard
Chicago IL, 60604


Project: Custom Cleaners
Project Number: [none]
Project Manager: Chi Tang

Reported:
Jun-20-12 08:00

Air Toxics by GC/MS
TechLaw - ESAT Contract

SL-P-2 (E120601-03) Air Sampled: May-30-12 16:14 Received: Jun-01-12 10:55

| Analyte | Result | Flags / Qualifiers | MDL | Limit | Units | Dilution | Batch | Prepared | Analyzed |
|---------------------------|--------|-----------------------|-----|-------|-------|----------|---------|-----------|-----------|
| Benzyl chloride | U | | | 250 | PPTV | 5 | EF20601 | Jun-06-12 | Jun-07-12 |
| Bromodichloromethane | U | | | 250 | " | " | " | " | " |
| Bromoform | U | | | 250 | " | " | " | " | " |
| Bromomethane | U | | | 250 | " | " | " | " | " |
| Butanal | U | J | | 250 | " | " | " | " | " |
| Carbon disulfide | U | J | | 250 | " | " | " | " | " |
| Carbon Tetrachloride | U | | | 250 | " | " | " | " | " |
| Chlorobenzene | U | | | 250 | " | " | " | " | " |
| Chlorodifluoromethane | 4870 | | | 250 | " | " | " | " | " |
| Chloroethane | U | | | 250 | " | " | " | " | " |
| Chloroform | U | | | 250 | " | " | " | " | " |
| Chloromethane | U | | | 250 | " | " | " | " | " |
| cis-1,2-Dichloroethene | U | | | 250 | " | " | " | " | " |
| cis-1,3-Dichloropropene | U | | | 250 | " | " | " | " | " |
| Cyclohexane | U | | | 250 | " | " | " | " | " |
| Cyclopentane | U | | | 250 | " | " | " | " | " |
| Dichlorodifluoromethane | 627 | | | 250 | " | " | " | " | " |
| Dichlorotetrafluoroethane | U | | | 250 | " | " | " | " | " |
| Ethylbenzene | 879 | | | 250 | " | " | " | " | " |
| Isobutene | U | J | | 250 | " | " | " | " | " |
| Isoprene | U | | | 250 | " | " | " | " | " |
| m,p-Xylene | 3160 | | | 250 | " | " | " | " | " |
| Methacrolein | U | | | 250 | " | " | " | " | " |
| Methyl ethyl ketone | 410 | J | | 250 | " | " | " | " | " |
| Methyl iodide | U | | | 250 | " | " | " | " | " |
| Methyl tert-butyl ether | U | J | | 250 | " | " | " | " | " |
| Methyl vinyl ketone | U | J | | 250 | " | " | " | " | " |
| Methylene chloride | U | | | 250 | " | " | " | " | " |
| n-Hexane | 251 | J | | 250 | " | " | " | " | " |
| o-Xylene | 1150 | | | 250 | " | " | " | " | " |
| Pentanal | 268 | J | | 250 | " | " | " | " | " |
| Pentane | 481 | J | | 250 | " | " | " | " | " |
| Propanal | 305 | J | | 250 | " | " | " | " | " |
| Propene | 853 | | | 250 | " | " | " | " | " |
| Styrene | 602 | J | | 250 | " | " | " | " | " |
| Tetrachloroethene | 136000 | | | 10000 | " | 200 | " | " | " |


Matt Kobus, Chemist

Report Name: E120601 FINAL Jun 20 12 0800

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Superfund, US EPA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Custom Cleaners
Project Number: [none]
Project Manager: Chi Tang

Reported:
Jun-20-12 08:00

Air Toxics by GC/MS
TechLaw - ESAT Contract

SL-P-2 (E120601-03) Air Sampled: May-30-12 16:14 Received: Jun-01-12 10:55

| Analyte | Result | Flags / Qualifiers | MDL | Limit | Units | Dilution | Batch | Prepared | Analyzed |
|---------------------------|--------|-----------------------|-----|-------|-------|----------|---------|-----------|-----------|
| Toluene | 1440 | | | 250 | PPTV | 5 | EF20601 | Jun-06-12 | Jun-07-12 |
| trans-1,3-Dichloropropene | U | | | 250 | " | " | " | " | " |
| Trichloroethene | U | | | 250 | " | " | " | " | " |
| Trichlorofluoromethane | 420 | | | 250 | " | " | " | " | " |
| Vinyl chloride | U | J | | 250 | " | " | " | " | " |

BF-P-1 (E120601-04) Air Sampled: May-30-12 16:04 Received: Jun-01-12 10:55

| Analyte | Result | Flags / Qualifiers | MDL | Limit | Units | Dilution | Batch | Prepared | Analyzed |
|---------------------------------------|--------|-----------------------|-----|-------|-------|----------|---------|-----------|-----------|
| 1,1,1-Trichloroethane | U | | | 100 | PPTV | 2 | EF21401 | Jun-06-12 | Jun-07-12 |
| 1,1,2,2-Tetrachloroethane | U | | | 100 | " | " | " | " | " |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | U | | | 100 | " | " | " | " | " |
| 1,1,2-Trichloroethane | U | | | 100 | " | " | " | " | " |
| 1,1-Dichloroethane | U | | | 100 | " | " | " | " | " |
| 1,1-Dichloroethene | U | | | 100 | " | " | " | " | " |
| 1,2,3-Trimethylbenzene | 793 | | | 100 | " | " | " | " | " |
| 1,2,4-Trichlorobenzene | U | | | 100 | " | " | " | " | " |
| 1,2,4-Trimethylbenzene | 3050 | | | 1000 | " | 20 | " | " | Jun-06-12 |
| 1,2-Dibromoethane (EDB) | U | | | 100 | " | 2 | " | " | Jun-07-12 |
| 1,2-Dichlorobenzene | U | | | 100 | " | " | " | " | " |
| 1,2-Dichloroethane | U | | | 100 | " | " | " | " | " |
| 1,2-Dichloropropane | U | | | 100 | " | " | " | " | " |
| 1,3,5-Trimethylbenzene | 791 | | | 100 | " | " | " | " | " |
| 1,3-Butadiene | U | | | 100 | " | " | " | " | " |
| 1,3-Dichlorobenzene | U | | | 100 | " | " | " | " | " |
| 1,4-Dichlorobenzene | U | | | 100 | " | " | " | " | " |
| 1,4-Dioxane | U | J | | 100 | " | " | " | " | " |
| 1-Butanol | 362 | | | 100 | " | " | " | " | " |
| 1-Propanol | 224 | | | 100 | " | " | " | " | " |
| 2-Hexanone | U | J | | 100 | " | " | " | " | " |
| 2-Pentanone | 103 | J | | 100 | " | " | " | " | " |
| 2-Propanol | 1510 | J | | 100 | " | " | " | " | " |
| 3-Hexanone | U | J | | 100 | " | " | " | " | " |
| 3-Pentanone | U | J | | 100 | " | " | " | " | " |
| 4-Methyl-2-pentanone | 231 | J | | 100 | " | " | " | " | " |

Matt Kobus 6-20-12

Matt Kobus, Chemist

Report Name: E120601 FINAL Jun 20 12 0800

Page 8 of 55

Superfund, US EPA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Custom Cleaners
Project Number: [none]
Project Manager: Chi Tang

Reported:
Jun-20-12 08:00

Air Toxics by GC/MS
TechLaw - ESAT Contract

BF-P-1 (E120601-04) Air Sampled: May-30-12 16:04 Received: Jun-01-12 10:55

| Analyte | Result | Flags / Qualifiers | MDL | Limit | Units | Dilution | Batch | Prepared | Analyzed |
|---------------------------|--------|-----------------------|-----|-------|-------|----------|---------|-----------|-----------|
| Acetone | 2450 | J | | 1000 | PPTV | 20 | EF21401 | Jun-06-12 | Jun-06-12 |
| Acetonitrile | 137 | | | 100 | " | 2 | " | " | Jun-07-12 |
| Acrolein | 347 | | | 100 | " | " | " | " | " |
| Benzene | 402 | | | 100 | " | " | " | " | " |
| Benzyl chloride | U | | | 100 | " | " | " | " | " |
| Bromodichloromethane | U | | | 100 | " | " | " | " | " |
| Bromoform | U | | | 100 | " | " | " | " | " |
| Bromomethane | U | | | 100 | " | " | " | " | " |
| Butanal | 293 | J | | 100 | " | " | " | " | " |
| Carbon disulfide | 119 | J | | 100 | " | " | " | " | " |
| Carbon Tetrachloride | U | | | 100 | " | " | " | " | " |
| Chlorobenzene | U | | | 100 | " | " | " | " | " |
| Chlorodifluoromethane | 943 | | | 100 | " | " | " | " | " |
| Chloroethane | U | | | 100 | " | " | " | " | " |
| Chloroform | U | | | 100 | " | " | " | " | " |
| Chloromethane | U | | | 100 | " | " | " | " | " |
| cis-1,2-Dichloroethene | U | | | 100 | " | " | " | " | " |
| cis-1,3-Dichloropropene | U | | | 100 | " | " | " | " | " |
| Cyclohexane | 355 | | | 100 | " | " | " | " | " |
| Cyclopentane | U | | | 100 | " | " | " | " | " |
| Dichlorodifluoromethane | 505 | | | 100 | " | " | " | " | " |
| Dichlorotetrafluoroethane | U | | | 100 | " | " | " | " | " |
| Ethylbenzene | 1420 | | | 100 | " | " | " | " | " |
| Isobutene | 218 | | | 100 | " | " | " | " | " |
| Isoprene | 171 | | | 100 | " | " | " | " | " |
| m,p-Xylene | 4940 | | | 1000 | " | 20 | " | " | Jun-06-12 |
| Methacrolein | U | | | 100 | " | 2 | " | " | Jun-07-12 |
| Methyl ethyl ketone | 584 | J | | 100 | " | " | " | " | " |
| Methyl iodide | U | | | 100 | " | " | " | " | " |
| Methyl tert-butyl ether | U | J | | 100 | " | " | " | " | " |
| Methyl vinyl ketone | 142 | J | | 100 | " | " | " | " | " |
| Methylene chloride | U | | | 100 | " | " | " | " | " |
| n-Hexane | 466 | J | | 100 | " | " | " | " | " |
| o-Xylene | 2000 | | | 1000 | " | 20 | " | " | Jun-06-12 |
| Pentanal | 419 | J | | 100 | " | 2 | " | " | Jun-07-12 |



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Superfund, US EPA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Custom Cleaners
Project Number: [none]
Project Manager: Chi Tang

Reported:
Jun-20-12 08:00

Air Toxics by GC/MS
TechLaw - ESAT Contract

BF-P-1 (E120601-04) Air Sampled: May-30-12 16:04 Received: Jun-01-12 10:55

| Analyte | Result | Flags / Qualifiers | MDL | Limit | Units | Dilution | Batch | Prepared | Analyzed |
|---------------------------|--------|-----------------------|-----|-------|-------|----------|---------|-----------|-----------|
| Pentane | 535 | J | | 100 | PPTV | 2 | EF21401 | Jun-06-12 | Jun-07-12 |
| Propanal | 421 | J | | 100 | " | " | " | " | " |
| Propene | 676 | | | 100 | " | " | " | " | " |
| Styrene | 432 | J | | 100 | " | " | " | " | " |
| Tetrachloroethene | 5230 | | | 1000 | " | 20 | " | " | Jun-06-12 |
| Toluene | 2450 | | | 1000 | " | " | " | " | " |
| trans-1,3-Dichloropropene | U | | | 100 | " | 2 | " | " | Jun-07-12 |
| Trichloroethene | U | | | 100 | " | " | " | " | " |
| Trichlorofluoromethane | 243 | | | 100 | " | " | " | " | " |
| Vinyl chloride | U | J | | 100 | " | " | " | " | " |

SL-A-1 (E120601-05) Air Sampled: May-30-12 16:12 Received: Jun-01-12 10:55

| Analyte | Result | Flags / Qualifiers | MDL | Limit | Units | Dilution | Batch | Prepared | Analyzed |
|---------------------------------------|--------|-----------------------|-----|-------|-------|----------|---------|-----------|-----------|
| 1,1,1-Trichloroethane | U | | | 100 | PPTV | 2 | EF20802 | Jun-06-12 | Jun-08-12 |
| 1,1,2,2-Tetrachloroethane | U | | | 100 | " | " | " | " | " |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | U | | | 100 | " | " | " | " | " |
| 1,1,2-Trichloroethane | U | | | 100 | " | " | " | " | " |
| 1,1-Dichloroethane | U | | | 100 | " | " | " | " | " |
| 1,1-Dichloroethene | U | | | 100 | " | " | " | " | " |
| 1,2,3-Trimethylbenzene | U | | | 100 | " | " | " | " | " |
| 1,2,4-Trichlorobenzene | U | | | 100 | " | " | " | " | " |
| 1,2,4-Trimethylbenzene | 228 | | | 100 | " | " | " | " | " |
| 1,2-Dibromoethane (EDB) | U | | | 100 | " | " | " | " | " |
| 1,2-Dichlorobenzene | U | | | 100 | " | " | " | " | " |
| 1,2-Dichloroethane | U | | | 100 | " | " | " | " | " |
| 1,2-Dichloropropane | U | | | 100 | " | " | " | " | " |
| 1,3,5-Trimethylbenzene | 335 | | | 100 | " | " | " | " | " |
| 1,3-Butadiene | U | | | 100 | " | " | " | " | " |
| 1,3-Dichlorobenzene | U | | | 100 | " | " | " | " | " |
| 1,4-Dichlorobenzene | U | | | 100 | " | " | " | " | " |
| 1,4-Dioxane | U | J | | 100 | " | " | " | " | " |
| 1-Butanol | 118 | | | 100 | " | " | " | " | " |
| 1-Propanol | 283 | | | 100 | " | " | " | " | " |
| 2-Hexanone | U | J | | 100 | " | " | " | " | " |

Matt Kobus, Chemist

Report Name: E120601 FINAL Jun 20 12 0800

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Superfund, US EPA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Custom Cleaners
Project Number: [none]
Project Manager: Chi Tang

Reported:
Jun-20-12 08:00

Air Toxics by GC/MS
TechLaw - ESAT Contract

SL-A-1 (E120601-05) Air Sampled: May-30-12 16:12 Received: Jun-01-12 10:55

| Analyte | Result | Flags / Qualifiers | MDL | Limit | Units | Dilution | Batch | Prepared | Analyzed |
|---------------------------|--------|-----------------------|-----|-------|-------|----------|---------|-----------|-----------|
| 2-Pentanone | 286 | J | | 100 | PPTV | 2 | EF20802 | Jun-06-12 | Jun-08-12 |
| 2-Propanol | 16500 | J | | 1000 | " | 20 | " | " | Jun-06-12 |
| 3-Hexanone | U | J | | 100 | " | 2 | " | " | Jun-08-12 |
| 3-Pentanone | U | J | | 100 | " | " | " | " | " |
| 4-Methyl-2-pentanone | U | J | | 100 | " | " | " | " | " |
| Acetone | 13000 | J | | 1000 | " | 20 | " | " | Jun-06-12 |
| Acetonitrile | 299 | | | 100 | " | 2 | " | " | Jun-08-12 |
| Acrolein | 642 | | | 100 | " | " | " | " | " |
| Benzene | 356 | | | 100 | " | " | " | " | " |
| Benzyl chloride | U | | | 100 | " | " | " | " | " |
| Bromodichloromethane | U | | | 100 | " | " | " | " | " |
| Bromoform | U | | | 100 | " | " | " | " | " |
| Bromomethane | U | | | 100 | " | " | " | " | " |
| Butanal | 576 | J | | 100 | " | " | " | " | " |
| Carbon disulfide | U | J | | 100 | " | " | " | " | " |
| Carbon Tetrachloride | U | | | 100 | " | " | " | " | " |
| Chlorobenzene | U | | | 100 | " | " | " | " | " |
| Chlorodifluoromethane | 5930 | | | 1000 | " | 20 | " | " | Jun-06-12 |
| Chloroethane | U | | | 100 | " | 2 | " | " | Jun-08-12 |
| Chloroform | 197 | | | 100 | " | " | " | " | " |
| Chloromethane | 430 | | | 100 | " | " | " | " | " |
| cis-1,2-Dichloroethene | U | | | 100 | " | " | " | " | " |
| cis-1,3-Dichloropropene | U | | | 100 | " | " | " | " | " |
| Cyclohexane | 118 | | | 100 | " | " | " | " | " |
| Cyclopentane | 196 | | | 100 | " | " | " | " | " |
| Dichlorodifluoromethane | 448 | | | 100 | " | " | " | " | " |
| Dichlorotetrafluoroethane | U | | | 100 | " | " | " | " | " |
| Ethylbenzene | 569 | | | 100 | " | " | " | " | " |
| Isobutene | 413 | | | 100 | " | " | " | " | " |
| Isoprene | 630 | | | 100 | " | " | " | " | " |
| m,p-Xylene | 1490 | | | 100 | " | " | " | " | " |
| Methacrolein | 113 | | | 100 | " | " | " | " | " |
| Methyl ethyl ketone | 726 | J | | 100 | " | " | " | " | " |
| Methyl iodide | U | | | 100 | " | " | " | " | " |
| Methyl tert-butyl ether | U | J | | 100 | " | " | " | " | " |



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| | |
|----------------------------|---------------------------|
| Superfund, US EPA Region 5 | Project: Custom Cleaners |
| 77 West Jackson Boulevard | Project Number: [none] |
| Chicago IL, 60604 | Project Manager: Chi Tang |
| | Reported: Jun-20-12 08:00 |

Air Toxics by GC/MS
TechLaw - ESAT Contract

SL-A-1 (E120601-05) Air Sampled: May-30-12 16:12 Received: Jun-01-12 10:55

| Analyte | Result | Flags / Qualifiers | MDL | Limit | Units | Dilution | Batch | Prepared | Analyzed |
|---------------------------|--------|--------------------|-----|-------|-------|----------|---------|-----------|-----------|
| Methyl vinyl ketone | 278 | J | | 100 | PPTV | 2 | EF20802 | Jun-06-12 | Jun-08-12 |
| Methylene chloride | U | | | 100 | | | | | |
| n-Hexane | 310 | J | | 100 | | | | | |
| o-Xylene | 381 | | | 100 | | | | | |
| Pentanal | 705 | J | | 100 | | | | | |
| Pentane | 4730 | J | | 1000 | | 20 | | Jun-06-12 | |
| Propanal | 1060 | J | | 100 | | 2 | | Jun-08-12 | |
| Propene | 26000 | | | 2500 | | 50 | | Jun-08-12 | |
| Styrene | 772 | J | | 100 | | 2 | | Jun-08-12 | |
| Tetrachloroethene | 179 | | | 100 | | | | | |
| Toluene | 1030 | | | 100 | | | | | |
| trans-1,3-Dichloropropene | U | | | 100 | | | | | |
| Trichloroethene | U | | | 100 | | | | | |
| Trichlorofluoromethane | 320 | | | 100 | | | | | |
| Vinyl chloride | U | J | | 100 | | | | | |

SL-P-1R (E120601-06) Air Sampled: May-30-12 16:10 Received: Jun-01-12 10:55

| Analyte | Result | Flags / Qualifiers | MDL | Limit | Units | Dilution | Batch | Prepared | Analyzed |
|---------------------------------------|--------|--------------------|-----|-------|-------|----------|---------|-----------|-----------|
| 1,1,1-Trichloroethane | U | | | 250 | PPTV | 5 | EF20801 | Jun-06-12 | Jun-07-12 |
| 1,1,2,2-Tetrachloroethane | U | | | 250 | | | | | |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | U | | | 250 | | | | | |
| 1,1,2-Trichloroethane | U | | | 250 | | | | | |
| 1,1-Dichloroethane | U | | | 250 | | | | | |
| 1,1-Dichloroethene | U | | | 250 | | | | | |
| 1,2,3-Trimethylbenzene | 437 | | | 250 | | | | | |
| 1,2,4-Trichlorobenzene | U | | | 250 | | | | | |
| 1,2,4-Trimethylbenzene | 1580 | | | 250 | | | | | |
| 1,2-Dibromomethane (EDB) | U | | | 250 | | | | | |
| 1,2-Dichlorobenzene | U | | | 250 | | | | | |
| 1,2-Dichloroethane | U | | | 250 | | | | | |
| 1,2-Dichloropropane | U | | | 250 | | | | | |
| 1,3,5-Trimethylbenzene | 363 | | | 250 | | | | | |
| 1,3-Butadiene | U | | | 250 | | | | | |
| 1,3-Dichlorobenzene | U | | | 250 | | | | | |



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Superfund, US EPA Region 5
 77 West Jackson Boulevard
 Chicago IL, 60604

Project: Custom Cleaners
 Project Number: [none]
 Project Manager: Chi Tang

Reported:
 Jun-20-12 08:00

Air Toxics by GC/MS TechLaw - ESAT Contract

SL-P-1R (E120601-06) Air Sampled: May-30-12 16:10 Received: Jun-01-12 10:55

| Analyte | Result | Flags / Qualifiers | MDL | Limit | Units | Dilution | Batch | Prepared | Analyzed |
|---------------------------|--------|-----------------------|-----|-------|-------|----------|---------|-----------|-----------|
| 1,4-Dichlorobenzene | U | | | 250 | PPTV | 5 | EF20801 | Jun-06-12 | Jun-07-12 |
| 1,4-Dioxane | U | J | | 250 | " | " | " | " | " |
| 1-Butanol | 610 | | | 250 | " | " | " | " | " |
| 1-Propanol | 449 | | | 250 | " | " | " | " | " |
| 2-Hexanone | U | J | | 250 | " | " | " | " | " |
| 2-Pentanone | 888 | J | | 250 | " | " | " | " | " |
| 2-Propanol | 2110 | J | | 250 | " | " | " | " | " |
| 3-Hexanone | U | J | | 250 | " | " | " | " | " |
| 3-Pentanone | U | J | | 250 | " | " | " | " | " |
| 4-Methyl-2-pentanone | 409 | J | | 250 | " | " | " | " | " |
| Acetone | 18700 | J | | 1000 | " | 20 | " | " | Jun-06-12 |
| Acetonitrile | U | | | 250 | " | 5 | " | " | Jun-07-12 |
| Acrolein | U | | | 250 | " | " | " | " | " |
| Benzene | 279 | | | 250 | " | " | " | " | " |
| Benzyl chloride | U | | | 250 | " | " | " | " | " |
| Bromodichloromethane | U | | | 250 | " | " | " | " | " |
| Bromoform | U | | | 250 | " | " | " | " | " |
| Bromomethane | U | | | 250 | " | " | " | " | " |
| Butanal | 399 | J | | 250 | " | " | " | " | " |
| Carbon disulfide | U | J | | 250 | " | " | " | " | " |
| Carbon Tetrachloride | U | | | 250 | " | " | " | " | " |
| Chlorobenzene | U | | | 250 | " | " | " | " | " |
| Chlorodifluoromethane | 5590 | | | 1000 | " | 20 | " | " | Jun-06-12 |
| Chloroethane | U | | | 250 | " | 5 | " | " | Jun-07-12 |
| Chloroform | U | | | 250 | " | " | " | " | " |
| Chloromethane | U | | | 250 | " | " | " | " | " |
| cis-1,2-Dichloroethene | U | | | 250 | " | " | " | " | " |
| cis-1,3-Dichloropropene | U | | | 250 | " | " | " | " | " |
| Cyclohexane | 611 | | | 250 | " | " | " | " | " |
| Cyclopentane | 267 | | | 250 | " | " | " | " | " |
| Dichlorodifluoromethane | 936 | | | 250 | " | " | " | " | " |
| Dichlorotetrafluoroethane | U | | | 250 | " | " | " | " | " |
| Ethylbenzene | 842 | | | 250 | " | " | " | " | " |
| Isobutene | 325 | | | 250 | " | " | " | " | " |
| Isoprene | U | | | 250 | " | " | " | " | " |

Matt Kobus 6-20-12

Matt Kobus, Chemist

Report Name: E120601 FINAL Jun 20 12 0800

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Superfund, US EPA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Custom Cleaners
Project Number: [none]
Project Manager: Chi Tang

Reported:
Jun-20-12 08:00

Air Toxics by GC/MS
TechLaw - ESAT Contract

SL-P-1R (E120601-06) Air Sampled: May-30-12 16:10 Received: Jun-01-12 10:55

| Analyte | Result | Flags / Qualifiers | MDL | Limit | Units | Dilution | Batch | Prepared | Analyzed |
|---------------------------|--------|-----------------------|-----|-------|-------|----------|---------|-----------|-----------|
| m,p-Xylene | 2580 | | | 250 | PPTV | 5 | EF20801 | Jun-06-12 | Jun-07-12 |
| Methacrolein | U | | | 250 | " | " | " | " | " |
| Methyl ethyl ketone | 1270 | J | | 250 | " | " | " | " | " |
| Methyl iodide | U | | | 250 | " | " | " | " | " |
| Methyl tert-butyl ether | U | J | | 250 | " | " | " | " | " |
| Methyl vinyl ketone | U | J | | 250 | " | " | " | " | " |
| Methylene chloride | U | | | 250 | " | " | " | " | " |
| n-Hexane | 1390 | J | | 250 | " | " | " | " | " |
| o-Xylene | 945 | | | 250 | " | " | " | " | " |
| Pentanal | 365 | J | | 250 | " | " | " | " | " |
| Pentane | 1890 | J | | 250 | " | " | " | " | " |
| Propanal | 527 | J | | 250 | " | " | " | " | " |
| Propene | 1640 | | | 250 | " | " | " | " | " |
| Styrene | 356 | J | | 250 | " | " | " | " | " |
| Tetrachloroethene | 18200 | | | 1000 | " | 20 | " | " | Jun-06-12 |
| Toluene | 1830 | | | 250 | " | 5 | " | " | Jun-07-12 |
| trans-1,3-Dichloropropene | U | | | 250 | " | " | " | " | " |
| Trichloroethene | U | | | 250 | " | " | " | " | " |
| Trichlorofluoromethane | 818 | | | 250 | " | " | " | " | " |
| Vinyl chloride | U | J | | 250 | " | " | " | " | " |

Ambient (E120601-07) Air Sampled: May-30-12 16:33 Received: Jun-01-12 10:55

| Analyte | Result | Flags / Qualifiers | MDL | Limit | Units | Dilution | Batch | Prepared | Analyzed |
|---------------------------------------|--------|-----------------------|-----|-------|-------|----------|---------|-----------|-----------|
| 1,1,1-Trichloroethane | U | | | 50.0 | PPTV | 1 | EF20801 | Jun-06-12 | Jun-07-12 |
| 1,1,2,2-Tetrachloroethane | U | | | 50.0 | " | " | " | " | " |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 69.9 | | | 50.0 | " | " | " | " | " |
| 1,1,2-Trichloroethane | U | | | 50.0 | " | " | " | " | " |
| 1,1-Dichloroethane | U | | | 50.0 | " | " | " | " | " |
| 1,1-Dichloroethene | U | | | 50.0 | " | " | " | " | " |
| 1,2,3-Trimethylbenzene | U | | | 50.0 | " | " | " | " | " |
| 1,2,4-Trichlorobenzene | U | | | 50.0 | " | " | " | " | " |
| 1,2,4-Trimethylbenzene | 101 | | | 50.0 | " | " | " | " | " |
| 1,2-Dibromoethane (EDB) | U | | | 50.0 | " | " | " | " | " |
| 1,2-Dichlorobenzene | U | | | 50.0 | " | " | " | " | " |

Matt Kobus 6-20-12

Matt Kobus, Chemist

Report Name: E120601 FINAL Jun 20 12 0800

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Superfund, US EPA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Custom Cleaners
Project Number: [none]
Project Manager: Chi Tang

Reported:
Jun-20-12 08:00

Air Toxics by GC/MS
TechLaw - ESAT Contract

Ambient (E120601-07) Air Sampled: May-30-12 16:33 Received: Jun-01-12 10:55

| Analyte | Result | Flags / Qualifiers | MDL | Limit | Units | Dilution | Batch | Prepared | Analyzed |
|-------------------------|--------|-----------------------|-----|-------|-------|----------|---------|-----------|-----------|
| 1,2-Dichloroethane | U | | | 50.0 | PPTV | 1 | EF20801 | Jun-06-12 | Jun-07-12 |
| 1,2-Dichloropropane | U | | | 50.0 | " | " | " | " | " |
| 1,3,5-Trimethylbenzene | U | | | 50.0 | " | " | " | " | " |
| 1,3-Butadiene | U | | | 50.0 | " | " | " | " | " |
| 1,3-Dichlorobenzene | U | | | 50.0 | " | " | " | " | " |
| 1,4-Dichlorobenzene | U | | | 50.0 | " | " | " | " | " |
| 1,4-Dioxane | U | J | | 50.0 | " | " | " | " | " |
| 1-Butanol | U | | | 50.0 | " | " | " | " | " |
| 1-Propanol | 71.1 | | | 50.0 | " | " | " | " | " |
| 2-Hexanone | U | J | | 50.0 | " | " | " | " | " |
| 2-Pentanone | U | J | | 50.0 | " | " | " | " | " |
| 2-Propanol | U | J | | 50.0 | " | " | " | " | " |
| 3-Hexanone | U | J | | 50.0 | " | " | " | " | " |
| 3-Pentanone | U | J | | 50.0 | " | " | " | " | " |
| 4-Methyl-2-pentanone | U | J | | 50.0 | " | " | " | " | " |
| Acetone | 4890 | J | | 1000 | " | 20 | " | " | Jun-06-12 |
| Acetonitrile | 152 | | | 50.0 | " | 1 | " | " | Jun-07-12 |
| Acrolein | 217 | | | 50.0 | " | " | " | " | " |
| Benzene | 103 | | | 50.0 | " | " | " | " | " |
| Benzyl chloride | U | | | 50.0 | " | " | " | " | " |
| Bromodichloromethane | U | | | 50.0 | " | " | " | " | " |
| Bromoform | U | | | 50.0 | " | " | " | " | " |
| Bromomethane | U | | | 50.0 | " | " | " | " | " |
| Butanal | 400 | J | | 50.0 | " | " | " | " | " |
| Carbon disulfide | U | J | | 50.0 | " | " | " | " | " |
| Carbon Tetrachloride | 82.6 | | | 50.0 | " | " | " | " | " |
| Chlorobenzene | U | | | 50.0 | " | " | " | " | " |
| Chlorodifluoromethane | 330 | | | 50.0 | " | " | " | " | " |
| Chloroethane | U | | | 50.0 | " | " | " | " | " |
| Chloroform | U | | | 50.0 | " | " | " | " | " |
| Chloromethane | 545 | | | 50.0 | " | " | " | " | " |
| cis-1,2-Dichloroethene | U | | | 50.0 | " | " | " | " | " |
| cis-1,3-Dichloropropene | U | | | 50.0 | " | " | " | " | " |
| Cyclohexane | U | | | 50.0 | " | " | " | " | " |
| Cyclopentane | U | | | 50.0 | " | " | " | " | " |
| Dichlorodifluoromethane | 415 | | | 50.0 | " | " | " | " | " |

Matt Kobus

6-20-12

Matt Kobus, Chemist

Report Name: E120601 FINAL Jun 20 12 0800

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Superfund, US EPA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Custom Cleaners
Project Number: [none]
Project Manager: Chi Tang

Reported:
Jun-20-12 08:00

Air Toxics by GC/MS
TechLaw - ESAT Contract

Ambient (E120601-07) Air Sampled: May-30-12 16:33 Received: Jun-01-12 10:55

| Analyte | Result | Flags / Qualifiers | MDL | Limit | Units | Dilution | Batch | Prepared | Analyzed |
|---------------------------|--------|-----------------------|-----|-------|-------|----------|---------|-----------|-----------|
| Dichlorotetrafluoroethane | U | | | 50.0 | PPTV | 1 | EF20801 | Jun-06-12 | Jun-07-12 |
| Ethylbenzene | 60.3 | | | 50.0 | " | " | " | " | " |
| Isobutene | 96.9 | | | 50.0 | " | " | " | " | " |
| Isoprene | 482 | | | 50.0 | " | " | " | " | " |
| m,p-Xylene | 224 | | | 50.0 | " | " | " | " | " |
| Methacrolein | 68.1 | | | 50.0 | " | " | " | " | " |
| Methyl ethyl ketone | 219 | J | | 50.0 | " | " | " | " | " |
| Methyl iodide | U | | | 50.0 | " | " | " | " | " |
| Methyl tert-butyl ether | U | J | | 50.0 | " | " | " | " | " |
| Methyl vinyl ketone | 154 | J | | 50.0 | " | " | " | " | " |
| Methylene chloride | 56.9 | | | 50.0 | " | " | " | " | " |
| n-Hexane | 113 | J | | 50.0 | " | " | " | " | " |
| o-Xylene | 81.3 | | | 50.0 | " | " | " | " | " |
| Pentanal | 336 | J | | 50.0 | " | " | " | " | " |
| Pentane | 341 | J | | 50.0 | " | " | " | " | " |
| Propanal | 705 | J | | 50.0 | " | " | " | " | " |
| Propene | 223 | | | 50.0 | " | " | " | " | " |
| Styrene | U | J | | 50.0 | " | " | " | " | " |
| Tetrachloroethene | 205 | | | 50.0 | " | " | " | " | " |
| Toluene | 276 | | | 50.0 | " | " | " | " | " |
| trans-1,3-Dichloropropene | U | | | 50.0 | " | " | " | " | " |
| Trichloroethene | U | | | 50.0 | " | " | " | " | " |
| Trichlorofluoromethane | 219 | | | 50.0 | " | " | " | " | " |
| Vinyl chloride | U | J | | 50.0 | " | " | " | " | " |

Superfund, US EPA Region 5
77 West Jackson Boulevard
Chicago IL, 60604


Project: Custom Cleaners
Project Number: [none]
Project Manager: Chi Tang

Reported:
Jun-20-12 08:00

Air Toxics by GC/MS
TechLaw - ESAT Contract

CC-A-1 (E120601-08) Air Sampled: May-30-12 16:20 Received: Jun-01-12 10:55

| Analyte | Result | Flags / Qualifiers | MDL | Limit | Units | Dilution | Batch | Prepared | Analyzed |
|---------------------------------------|--------|-----------------------|-----|-------|-------|----------|---------|-----------|-----------|
| 1,1,1-Trichloroethane | U | | | 50.0 | PPTV | 1 | EF20801 | Jun-06-12 | Jun-07-12 |
| 1,1,2,2-Tetrachloroethane | U | | | 50.0 | " | " | " | " | " |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 73.4 | | | 50.0 | " | " | " | " | " |
| 1,1,2-Trichloroethane | U | | | 50.0 | " | " | " | " | " |
| 1,1-Dichloroethane | U | | | 50.0 | " | " | " | " | " |
| 1,1-Dichloroethene | U | | | 50.0 | " | " | " | " | " |
| 1,2,3-Trimethylbenzene | 80.9 | | | 50.0 | " | " | " | " | " |
| 1,2,4-Trichlorobenzene | U | | | 50.0 | " | " | " | " | " |
| 1,2,4-Trimethylbenzene | 302 | | | 50.0 | " | " | " | " | " |
| 1,2-Dibromoethane (EDB) | U | | | 50.0 | " | " | " | " | " |
| 1,2-Dichlorobenzene | U | | | 50.0 | " | " | " | " | " |
| 1,2-Dichloroethane | U | | | 50.0 | " | " | " | " | " |
| 1,2-Dichloropropane | U | | | 50.0 | " | " | " | " | " |
| 1,3,5-Trimethylbenzene | 80.2 | | | 50.0 | " | " | " | " | " |
| 1,3-Butadiene | U | | | 50.0 | " | " | " | " | " |
| 1,3-Dichlorobenzene | U | | | 50.0 | " | " | " | " | " |
| 1,4-Dichlorobenzene | U | | | 50.0 | " | " | " | " | " |
| 1,4-Dioxane | U | J | | 50.0 | " | " | " | " | " |
| 1-Butanol | 194 | | | 50.0 | " | " | " | " | " |
| 1-Propanol | 168 | | | 50.0 | " | " | " | " | " |
| 2-Hexanone | U | J | | 50.0 | " | " | " | " | " |
| 2-Pentanone | 94.0 | J | | 50.0 | " | " | " | " | " |
| 2-Propanol | 1230 | J | | 100 | " | 2 | " | " | Jun-07-12 |
| 3-Hexanone | U | J | | 50.0 | " | 1 | " | " | Jun-07-12 |
| 3-Pentanone | U | J | | 50.0 | " | " | " | " | " |
| 4-Methyl-2-pentanone | U | J | | 50.0 | " | " | " | " | " |
| Acetone | 3530 | J | | 1000 | " | 20 | " | " | Jun-06-12 |
| Acetonitrile | 168 | | | 50.0 | " | 1 | " | " | Jun-07-12 |
| Acrolein | 304 | | | 50.0 | " | " | " | " | " |
| Benzene | 302 | | | 50.0 | " | " | " | " | " |
| Benzyl chloride | U | | | 50.0 | " | " | " | " | " |
| Bromodichloromethane | U | | | 50.0 | " | " | " | " | " |
| Bromoform | U | | | 50.0 | " | " | " | " | " |
| Bromomethane | U | | | 50.0 | " | " | " | " | " |
| Butanal | 344 | J | | 50.0 | " | " | " | " | " |
| Carbon disulfide | U | J | | 50.0 | " | " | " | " | " |

 6-20-12
Matt Kobus, Chemist

Report Name: E120601 FINAL Jun 20 12 0800

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Superfund, US EPA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Custom Cleaners
Project Number: [none]
Project Manager: Chi Tang

Reported:
Jun-20-12 08:00

Air Toxics by GC/MS
TechLaw - ESAT Contract

CC-A-1 (E120601-08) Air Sampled: May-30-12 16:20 Received: Jun-01-12 10:55

| Analyte | Result | Flags / Qualifiers | MDL | Limit | Units | Dilution | Batch | Prepared | Analyzed |
|---------------------------|--------|-----------------------|-----|-------|-------|----------|---------|-----------|-----------|
| Carbon Tetrachloride | 85.9 | | | 50.0 | PPTV | 1 | EF20801 | Jun-06-12 | Jun-07-12 |
| Chlorobenzene | U | | | 50.0 | " | " | " | " | " |
| Chlorodifluoromethane | 808 | | | 50.0 | " | " | " | " | " |
| Chloroethane | U | | | 50.0 | " | " | " | " | " |
| Chloroform | U | | | 50.0 | " | " | " | " | " |
| Chloromethane | 566 | | | 50.0 | " | " | " | " | " |
| cis-1,2-Dichloroethene | U | | | 50.0 | " | " | " | " | " |
| cis-1,3-Dichloropropene | U | | | 50.0 | " | " | " | " | " |
| Cyclohexane | 195 | | | 50.0 | " | " | " | " | " |
| Cyclopentane | 68.5 | | | 50.0 | " | " | " | " | " |
| Dichlorodifluoromethane | 481 | | | 50.0 | " | " | " | " | " |
| Dichlorotetrafluoroethane | U | | | 50.0 | " | " | " | " | " |
| Ethylbenzene | 223 | | | 50.0 | " | " | " | " | " |
| Isobutene | 145 | | | 50.0 | " | " | " | " | " |
| Isoprene | 355 | | | 50.0 | " | " | " | " | " |
| m,p-Xylene | 777 | | | 50.0 | " | " | " | " | " |
| Methacrolein | 94.6 | | | 50.0 | " | " | " | " | " |
| Methyl ethyl ketone | 438 | J | | 50.0 | " | " | " | " | " |
| Methyl iodide | U | | | 50.0 | " | " | " | " | " |
| Methyl tert-butyl ether | U | J | | 50.0 | " | " | " | " | " |
| Methyl vinyl ketone | 203 | J | | 50.0 | " | " | " | " | " |
| Methylene chloride | 65.6 | | | 50.0 | " | " | " | " | " |
| n-Hexane | 346 | J | | 50.0 | " | " | " | " | " |
| o-Xylene | 285 | | | 50.0 | " | " | " | " | " |
| Pentanal | 279 | J | | 50.0 | " | " | " | " | " |
| Pentane | 690 | J | | 50.0 | " | " | " | " | " |
| Propanal | 570 | J | | 50.0 | " | " | " | " | " |
| Propene | 2380 | | | 1000 | " | 20 | " | " | Jun-06-12 |
| Styrene | 50.3 | J | | 50.0 | " | 1 | " | " | Jun-07-12 |
| Tetrachloroethene | 205 | | | 50.0 | " | " | " | " | " |
| Toluene | 957 | | | 50.0 | " | " | " | " | " |
| trans-1,3-Dichloropropene | U | | | 50.0 | " | " | " | " | " |
| Trichloroethene | U | | | 50.0 | " | " | " | " | " |
| Trichlorofluoromethane | 237 | | | 50.0 | " | " | " | " | " |
| Vinyl chloride | U | J | | 50.0 | " | " | " | " | " |

Superfund, US EPA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Custom Cleaners
Project Number: [none]
Project Manager: Chi Tang

Reported:
Jun-20-12 08:00

Air Toxics by GC/MS
TechLaw - ESAT Contract

CC-A-2 (E120601-09) Air Sampled: May-30-12 16:22 Received: Jun-01-12 10:55

| Analyte | Result | Flags / Qualifiers | MDL | Limit | Units | Dilution | Batch | Prepared | Analyzed |
|---------------------------------------|--------|-----------------------|-----|-------|-------|----------|---------|-----------|-----------|
| 1,1,1-Trichloroethane | U | | | 50.0 | PPTV | 1 | EF20801 | Jun-06-12 | Jun-07-12 |
| 1,1,2,2-Tetrachloroethane | U | | | 50.0 | " | " | " | " | " |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 73.6 | | | 50.0 | " | " | " | " | " |
| 1,1,2-Trichloroethane | U | | | 50.0 | " | " | " | " | " |
| 1,1-Dichloroethane | U | | | 50.0 | " | " | " | " | " |
| 1,1-Dichloroethene | U | | | 50.0 | " | " | " | " | " |
| 1,2,3-Trimethylbenzene | 87.6 | | | 50.0 | " | " | " | " | " |
| 1,2,4-Trichlorobenzene | U | | | 50.0 | " | " | " | " | " |
| 1,2,4-Trimethylbenzene | 342 | | | 50.0 | " | " | " | " | " |
| 1,2-Dibromoethane (EDB) | U | | | 50.0 | " | " | " | " | " |
| 1,2-Dichlorobenzene | U | | | 50.0 | " | " | " | " | " |
| 1,2-Dichloroethane | U | | | 50.0 | " | " | " | " | " |
| 1,2-Dichloropropane | U | | | 50.0 | " | " | " | " | " |
| 1,3,5-Trimethylbenzene | 415 | | | 50.0 | " | " | " | " | " |
| 1,3-Butadiene | U | | | 50.0 | " | " | " | " | " |
| 1,3-Dichlorobenzene | U | | | 50.0 | " | " | " | " | " |
| 1,4-Dichlorobenzene | U | | | 50.0 | " | " | " | " | " |
| 1,4-Dioxane | U | J | | 50.0 | " | " | " | " | " |
| 1-Butanol | 206 | | | 50.0 | " | " | " | " | " |
| 1-Propanol | 183 | | | 50.0 | " | " | " | " | " |
| 2-Hexanone | U | J | | 50.0 | " | " | " | " | " |
| 2-Pentanone | 104 | J | | 50.0 | " | " | " | " | " |
| 2-Propanol | 1370 | J | | 100 | " | 2 | " | " | Jun-07-12 |
| 3-Hexanone | U | J | | 50.0 | " | 1 | " | " | Jun-07-12 |
| 3-Pentanone | U | J | | 50.0 | " | " | " | " | " |
| 4-Methyl-2-pentanone | U | J | | 50.0 | " | " | " | " | " |
| Acetone | 4150 | J | | 1000 | " | 20 | " | " | Jun-06-12 |
| Acetonitrile | 178 | | | 50.0 | " | 1 | " | " | Jun-07-12 |
| Acrolein | 280 | | | 50.0 | " | " | " | " | " |
| Benzene | 326 | | | 50.0 | " | " | " | " | " |
| Benzyl chloride | U | | | 50.0 | " | " | " | " | " |
| Bromodichloromethane | U | | | 50.0 | " | " | " | " | " |
| Bromoform | U | | | 50.0 | " | " | " | " | " |
| Bromomethane | U | | | 50.0 | " | " | " | " | " |
| Butanal | 321 | J | | 50.0 | " | " | " | " | " |

Superfund, US EPA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Custom Cleaners
Project Number: [none]
Project Manager: Chi Tang

Reported:
Jun-20-12 08:00

Air Toxics by GC/MS
TechLaw - ESAT Contract

CC-A-2 (E120601-09) Air Sampled: May-30-12 16:22 Received: Jun-01-12 10:55

| Analyte | Result | Flags / Qualifiers | MDL | Limit | Units | Dilution | Batch | Prepared | Analyzed |
|---------------------------|--------|-----------------------|-----|-------|-------|----------|---------|-----------|-----------|
| Carbon disulfide | U | J | | 50.0 | PPTV | 1 | EF20801 | Jun-06-12 | Jun-07-12 |
| Carbon Tetrachloride | 85.0 | | | 50.0 | " | " | " | " | " |
| Chlorobenzene | U | | | 50.0 | " | " | " | " | " |
| Chlorodifluoromethane | 896 | | | 50.0 | " | " | " | " | " |
| Chloroethane | U | | | 50.0 | " | " | " | " | " |
| Chloroform | U | | | 50.0 | " | " | " | " | " |
| Chloromethane | 558 | | | 50.0 | " | " | " | " | " |
| cis-1,2-Dichloroethene | U | | | 50.0 | " | " | " | " | " |
| cis-1,3-Dichloropropene | U | | | 50.0 | " | " | " | " | " |
| Cyclohexane | 206 | | | 50.0 | " | " | " | " | " |
| Cyclopentane | 77.4 | | | 50.0 | " | " | " | " | " |
| Dichlorodifluoromethane | 487 | | | 50.0 | " | " | " | " | " |
| Dichlorotetrafluoroethane | U | | | 50.0 | " | " | " | " | " |
| Ethylbenzene | 256 | | | 50.0 | " | " | " | " | " |
| Isobutene | 144 | | | 50.0 | " | " | " | " | " |
| Isoprene | 297 | | | 50.0 | " | " | " | " | " |
| m,p-Xylene | 877 | | | 50.0 | " | " | " | " | " |
| Methacrolein | 90.3 | | | 50.0 | " | " | " | " | " |
| Methyl ethyl ketone | 497 | J | | 50.0 | " | " | " | " | " |
| Methyl iodide | U | | | 50.0 | " | " | " | " | " |
| Methyl tert-butyl ether | U | J | | 50.0 | " | " | " | " | " |
| Methyl vinyl ketone | 221 | J | | 50.0 | " | " | " | " | " |
| Methylene chloride | 68.9 | | | 50.0 | " | " | " | " | " |
| n-Hexane | 371 | J | | 50.0 | " | " | " | " | " |
| o-Xylene | 317 | | | 50.0 | " | " | " | " | " |
| Pentanal | 266 | J | | 50.0 | " | " | " | " | " |
| Pentane | 796 | J | | 50.0 | " | " | " | " | " |
| Propanal | 580 | J | | 50.0 | " | " | " | " | " |
| Propene | 2610 | | | 1000 | " | 20 | " | " | Jun-06-12 |
| Styrene | 65.0 | J | | 50.0 | " | 1 | " | " | Jun-07-12 |
| Tetrachloroethene | 228 | | | 50.0 | " | " | " | " | " |
| Toluene | 994 | | | 100 | " | 2 | " | " | Jun-07-12 |
| trans-1,3-Dichloropropene | U | | | 50.0 | " | 1 | " | " | Jun-07-12 |
| Trichloroethene | U | | | 50.0 | " | " | " | " | " |
| Trichlorofluoromethane | 242 | | | 50.0 | " | " | " | " | " |



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Superfund, US EPA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Custom Cleaners
Project Number: [none]
Project Manager: Chi Tang

Reported:
Jun-20-12 08:00

Air Toxics by GC/MS
TechLaw - ESAT Contract

CC-A-2 (E120601-09) Air Sampled: May-30-12 16:22 Received: Jun-01-12 10:55

| Analyte | Result | Flags / Qualifiers | MDL | Limit | Units | Dilution | Batch | Prepared | Analyzed |
|----------------|--------|-----------------------|-----|-------|-------|----------|---------|-----------|-----------|
| Vinyl chloride | U | J | | 50.0 | PPTV | 1 | EF20801 | Jun-06-12 | Jun-07-12 |

CC-A-3 (E120601-10) Air Sampled: May-30-12 16:21 Received: Jun-01-12 10:55

| Analyte | Result | Flags / Qualifiers | MDL | Limit | Units | Dilution | Batch | Prepared | Analyzed |
|---------------------------------------|--------|-----------------------|-----|-------|-------|----------|---------|-----------|-----------|
| 1,1,1-Trichloroethane | U | | | 50.0 | PPTV | 1 | EF20801 | Jun-06-12 | Jun-07-12 |
| 1,1,2,2-Tetrachloroethane | U | | | 50.0 | " | " | " | " | " |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 73.1 | | | 50.0 | " | " | " | " | " |
| 1,1,2-Trichloroethane | U | | | 50.0 | " | " | " | " | " |
| 1,1-Dichloroethane | U | | | 50.0 | " | " | " | " | " |
| 1,1-Dichloroethene | U | | | 50.0 | " | " | " | " | " |
| 1,2,3-Trimethylbenzene | 79.1 | | | 50.0 | " | " | " | " | " |
| 1,2,4-Trichlorobenzene | U | | | 50.0 | " | " | " | " | " |
| 1,2,4-Trimethylbenzene | 306 | | | 50.0 | " | " | " | " | " |
| 1,2-Dibromoethane (EDB) | U | | | 50.0 | " | " | " | " | " |
| 1,2-Dichlorobenzene | U | | | 50.0 | " | " | " | " | " |
| 1,2-Dichloroethane | U | | | 50.0 | " | " | " | " | " |
| 1,2-Dichloropropane | U | | | 50.0 | " | " | " | " | " |
| 1,3,5-Trimethylbenzene | 80.4 | | | 50.0 | " | " | " | " | " |
| 1,3-Butadiene | U | | | 50.0 | " | " | " | " | " |
| 1,3-Dichlorobenzene | U | | | 50.0 | " | " | " | " | " |
| 1,4-Dichlorobenzene | U | | | 50.0 | " | " | " | " | " |
| 1,4-Dioxane | U | J | | 50.0 | " | " | " | " | " |
| 1-Butanol | 198 | | | 50.0 | " | " | " | " | " |
| 1-Propanol | 166 | | | 50.0 | " | " | " | " | " |
| 2-Hexanone | 67.9 | J | | 50.0 | " | " | " | " | " |
| 2-Pentanone | 140 | J | | 50.0 | " | " | " | " | " |
| 2-Propanol | 1460 | J | | 100 | " | 2 | " | " | Jun-07-12 |
| 3-Hexanone | U | J | | 50.0 | " | 1 | " | " | Jun-07-12 |
| 3-Pentanone | U | J | | 50.0 | " | " | " | " | " |
| 4-Methyl-2-pentanone | U | J | | 50.0 | " | " | " | " | " |
| Acetone | 4160 | J | | 1000 | " | 20 | " | " | Jun-06-12 |
| Acetonitrile | 179 | | | 50.0 | " | 1 | " | " | Jun-07-12 |
| Acrolein | 303 | | | 50.0 | " | " | " | " | " |
| Benzene | 312 | | | 50.0 | " | " | " | " | " |

Matt Kobus, Chemist

Report Name: E120601 FINAL Jun 20 12 0800

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| | | |
|--|---|------------------------------|
| Superfund, US EPA Region 5 77 West Jackson Boulevard Chicago IL, 60604 | Project: Custom Cleaners Project Number: [none] Project Manager: Chi Tang | Reported: Jun-20-12 08:00 |
|--|---|------------------------------|

Air Toxics by GC/MS
TechLaw - ESAT Contract

CC-A-3 (E120601-10) Air Sampled: May-30-12 16:21 Received: Jun-01-12 10:55

| Analyte | Result | Flags / Qualifiers | MDL | Limit | Units | Dilution | Batch | Prepared | Analyzed |
|---------------------------|--------|-----------------------|-----|-------|-------|----------|---------|-----------|-----------|
| Benzyl chloride | U | | | 50.0 | PPTV | 1 | EF20801 | Jun-06-12 | Jun-07-12 |
| Bromodichloromethane | U | | | 50.0 | " | " | " | " | " |
| Bromoform | U | | | 50.0 | " | " | " | " | " |
| Bromomethane | U | | | 50.0 | " | " | " | " | " |
| Butanal | 475 | J | | 50.0 | " | " | " | " | " |
| Carbon disulfide | U | J | | 50.0 | " | " | " | " | " |
| Carbon Tetrachloride | 84.9 | | | 50.0 | " | " | " | " | " |
| Chlorobenzene | U | | | 50.0 | " | " | " | " | " |
| Chlorodifluoromethane | 778 | | | 50.0 | " | " | " | " | " |
| Chloroethane | U | | | 50.0 | " | " | " | " | " |
| Chloroform | U | | | 50.0 | " | " | " | " | " |
| Chloromethane | 550 | | | 50.0 | " | " | " | " | " |
| cis-1,2-Dichloroethene | U | | | 50.0 | " | " | " | " | " |
| cis-1,3-Dichloropropene | U | | | 50.0 | " | " | " | " | " |
| Cyclohexane | 198 | | | 50.0 | " | " | " | " | " |
| Cyclopentane | 70.9 | | | 50.0 | " | " | " | " | " |
| Dichlorodifluoromethane | 480 | | | 50.0 | " | " | " | " | " |
| Dichlorotetrafluoroethane | U | | | 50.0 | " | " | " | " | " |
| Ethylbenzene | 248 | | | 50.0 | " | " | " | " | " |
| Isobutene | 146 | | | 50.0 | " | " | " | " | " |
| Isoprene | 335 | | | 50.0 | " | " | " | " | " |
| m,p-Xylene | 854 | | | 50.0 | " | " | " | " | " |
| Methacrolein | 103 | | | 50.0 | " | " | " | " | " |
| Methyl ethyl ketone | 530 | J | | 50.0 | " | " | " | " | " |
| Methyl iodide | U | | | 50.0 | " | " | " | " | " |
| Methyl tert-butyl ether | U | J | | 50.0 | " | " | " | " | " |
| Methyl vinyl ketone | 253 | J | | 50.0 | " | " | " | " | " |
| Methylene chloride | 66.6 | | | 50.0 | " | " | " | " | " |
| n-Hexane | 349 | J | | 50.0 | " | " | " | " | " |
| o-Xylene | 312 | | | 50.0 | " | " | " | " | " |
| Pentanal | 272 | J | | 50.0 | " | " | " | " | " |
| Pentane | 694 | J | | 50.0 | " | " | " | " | " |
| Propanal | 687 | J | | 50.0 | " | " | " | " | " |
| Propene | 2340 | | | 1000 | " | 20 | " | " | Jun-06-12 |
| Styrene | 63.0 | J | | 50.0 | " | 1 | " | " | Jun-07-12 |

Matt K 6-20-12
 Matt Kobus, Chemist

Report Name: E120601 FINAL Jun 20 12 0800

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Superfund, US EPA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Custom Cleaners
Project Number: [none]
Project Manager: Chi Tang

Reported:
Jun-20-12 08:00

Air Toxics by GC/MS
TechLaw - ESAT Contract

CC-A-3 (E120601-10) Air Sampled: May-30-12 16:21 Received: Jun-01-12 10:55

| Analyte | Result | Flags / Qualifiers | MDL | Limit | Units | Dilution | Batch | Prepared | Analyzed |
|---------------------------|--------|-----------------------|-----|-------|-------|----------|---------|-----------|-----------|
| Tetrachloroethene | 265 | | | 50.0 | PPTV | 1 | EF20801 | Jun-06-12 | Jun-07-12 |
| Toluene | 950 | | | 100 | " | 2 | " | " | Jun-07-12 |
| trans-1,3-Dichloropropene | U | | | 50.0 | " | 1 | " | " | Jun-07-12 |
| Trichloroethene | U | | | 50.0 | " | " | " | " | " |
| Trichlorofluoromethane | 239 | | | 50.0 | " | " | " | " | " |
| Vinyl chloride | U | J | | 50.0 | " | " | " | " | " |

CC-E-1 (E120601-11) Air Sampled: May-30-12 16:26 Received: Jun-01-12 10:55

| Analyte | Result | Flags / Qualifiers | MDL | Limit | Units | Dilution | Batch | Prepared | Analyzed |
|---------------------------------------|--------|-----------------------|-----|-------|-------|----------|---------|-----------|-----------|
| 1,1,1-Trichloroethane | U | | | 250 | PPTV | 5 | EF20802 | Jun-06-12 | Jun-08-12 |
| 1,1,2,2-Tetrachloroethane | U | | | 250 | " | " | " | " | " |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | U | | | 250 | " | " | " | " | " |
| 1,1,2-Trichloroethane | U | | | 250 | " | " | " | " | " |
| 1,1-Dichloroethane | U | | | 250 | " | " | " | " | " |
| 1,1-Dichloroethene | U | | | 250 | " | " | " | " | " |
| 1,2,3-Trimethylbenzene | 483 | | | 250 | " | " | " | " | " |
| 1,2,4-Trichlorobenzene | U | | | 250 | " | " | " | " | " |
| 1,2,4-Trimethylbenzene | 1930 | | | 250 | " | " | " | " | " |
| 1,2-Dibromoethane (EDB) | U | | | 250 | " | " | " | " | " |
| 1,2-Dichlorobenzene | U | | | 250 | " | " | " | " | " |
| 1,2-Dichloroethane | U | | | 250 | " | " | " | " | " |
| 1,2-Dichloropropane | U | | | 250 | " | " | " | " | " |
| 1,3,5-Trimethylbenzene | 383 | | | 250 | " | " | " | " | " |
| 1,3-Butadiene | U | | | 250 | " | " | " | " | " |
| 1,3-Dichlorobenzene | U | | | 250 | " | " | " | " | " |
| 1,4-Dichlorobenzene | U | | | 250 | " | " | " | " | " |
| 1,4-Dioxane | U | J | | 250 | " | " | " | " | " |
| 1-Butanol | U | | | 250 | " | " | " | " | " |
| 1-Propanol | U | | | 250 | " | " | " | " | " |
| 2-Hexanone | U | J | | 250 | " | " | " | " | " |
| 2-Pentanone | U | J | | 250 | " | " | " | " | " |
| 2-Propanol | U | J | | 250 | " | " | " | " | " |
| 3-Hexanone | U | J | | 250 | " | " | " | " | " |
| 3-Pentanone | U | J | | 250 | " | " | " | " | " |

Matt Kobus 6-20-12

Matt Kobus, Chemist

Report Name: E120601 FINAL Jun 20 12 0800

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Superfund, US EPA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Custom Cleaners
Project Number: [none]
Project Manager: Chi Tang

Reported:
Jun-20-12 08:00

Air Toxics by GC/MS
TechLaw - ESAT Contract

CC-E-1 (E120601-11) Air Sampled: May-30-12 16:26 Received: Jun-01-12 10:55

| Analyte | Result | Flags / Qualifiers | MDL | Limit | Units | Dilution | Batch | Prepared | Analyzed |
|---------------------------|--------|-----------------------|-----|-------|-------|----------|---------|-----------|-----------|
| 4-Methyl-2-pentanone | U | J | | 250 | PPTV | 5 | EF20802 | Jun-06-12 | Jun-08-12 |
| Acetone | 3920 | J | | 250 | " | " | " | " | " |
| Acetonitrile | U | | | 250 | " | " | " | " | " |
| Acrolein | U | | | 250 | " | " | " | " | " |
| Benzene | 288 | | | 250 | " | " | " | " | " |
| Benzyl chloride | U | | | 250 | " | " | " | " | " |
| Bromodichloromethane | U | | | 250 | " | " | " | " | " |
| Bromoform | U | | | 250 | " | " | " | " | " |
| Bromomethane | U | | | 250 | " | " | " | " | " |
| Butanal | 308 | J | | 250 | " | " | " | " | " |
| Carbon disulfide | U | J | | 600 | " | " | " | " | " |
| Carbon Tetrachloride | U | | | 250 | " | " | " | " | " |
| Chlorobenzene | U | | | 250 | " | " | " | " | " |
| Chlorodifluoromethane | 1670 | | | 250 | " | " | " | " | " |
| Chloroethane | U | | | 250 | " | " | " | " | " |
| Chloroform | U | | | 250 | " | " | " | " | " |
| Chloromethane | U | | | 250 | " | " | " | " | " |
| cis-1,2-Dichloroethene | U | | | 250 | " | " | " | " | " |
| cis-1,3-Dichloropropene | U | | | 250 | " | " | " | " | " |
| Cyclohexane | U | | | 250 | " | " | " | " | " |
| Cyclopentane | U | | | 250 | " | " | " | " | " |
| Dichlorodifluoromethane | 511 | | | 250 | " | " | " | " | " |
| Dichlorotetrafluoroethane | U | | | 250 | " | " | " | " | " |
| Ethylbenzene | 697 | | | 250 | " | " | " | " | " |
| Isobutene | U | | | 250 | " | " | " | " | " |
| Isoprene | U | | | 250 | " | " | " | " | " |
| m,p-Xylene | 2700 | | | 250 | " | " | " | " | " |
| Methacrolein | U | | | 250 | " | " | " | " | " |
| Methyl ethyl ketone | 500 | J | | 250 | " | " | " | " | " |
| Methyl iodide | U | | | 250 | " | " | " | " | " |
| Methyl tert-butyl ether | U | J | | 250 | " | " | " | " | " |
| Methyl vinyl ketone | U | J | | 250 | " | " | " | " | " |
| Methylene chloride | U | | | 250 | " | " | " | " | " |
| n-Hexane | 302 | J | | 250 | " | " | " | " | " |
| o-Xylene | 1040 | | | 250 | " | " | " | " | " |
| Pentanal | 343 | J | | 250 | " | " | " | " | " |



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Superfund, US EPA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

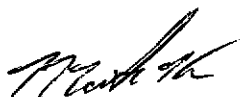
Project: Custom Cleaners
Project Number: [none]
Project Manager: Chi Tang

Reported:
Jun-20-12 08:00

Air Toxics by GC/MS
TechLaw - ESAT Contract

CC-E-1 (E120601-11) Air Sampled: May-30-12 16:26 Received: Jun-01-12 10:55

| Analyte | Result | Flags / Qualifiers | MDL | Limit | Units | Dilution | Batch | Prepared | Analyzed |
|---------------------------|--------|-----------------------|-----|-------|-------|----------|---------|-----------|-----------|
| Pentane | 780 | J | | 250 | PPTV | 5 | EF20802 | Jun-06-12 | Jun-08-12 |
| Propanal | 470 | J | | 250 | " | " | " | " | " |
| Propene | 6900 | | | 1000 | " | 20 | " | " | Jun-06-12 |
| Styrene | U | J | | 250 | " | 5 | " | " | Jun-08-12 |
| Tetrachloroethene | 79200 | | | 10000 | " | 200 | " | " | Jun-07-12 |
| Toluene | 1500 | | | 250 | " | 5 | " | " | Jun-08-12 |
| trans-1,3-Dichloropropene | U | | | 250 | " | " | " | " | " |
| Trichloroethene | U | | | 250 | " | " | " | " | " |
| Trichlorofluoromethane | 269 | | | 250 | " | " | " | " | " |
| Vinyl chloride | U | J | | 250 | " | " | " | " | " |

 6-20-12

Matt Kobus, Chemist

Report Name: E120601 FINAL Jun 20 12 0800

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Superfund, US EPA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Custom Cleaners
Project Number: [none]
Project Manager: Chi Tang

Reported:
Jun-20-12 08:00

Air Toxics by GC/MS - Quality Control
TechLaw - ESAT Contract

Batch EF20601 - Micro Purge and Trap

Blank (EF20601-BLK1)

Prepared & Analyzed: Jun-06-12

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Spike Level | Source Result | %REC Limits | RPD | RPD Limit |
|---------------------------|--------|-----------------------|-----|--------------------|-------|----------------|------------------|----------------|-----|--------------|
| Dichlorodifluoromethane | U | | | 50.0 | PPTV | | | | | |
| Dichlorotetrafluoroethane | U | | | 50.0 | " | | | | | |
| Chloromethane | U | | | 50.0 | " | | | | | |
| Vinyl chloride | U | J | | 50.0 | " | | | | | |
| Bromomethane | U | | | 50.0 | " | | | | | |
| Chloroethane | U | | | 50.0 | " | | | | | |
| Trichlorofluoromethane | U | | | 50.0 | " | | | | | |
| Acetone | U | J | | 50.0 | " | | | | | |
| 1,1-Dichloroethene | U | | | 50.0 | " | | | | | |
| Methylene chloride | U | | | 50.0 | " | | | | | |
| Carbon disulfide | 122 | J | | 50.0 | " | | | | | |
| Methyl tert-butyl ether | U | J | | 50.0 | " | | | | | |
| 1,1-Dichloroethane | U | | | 50.0 | " | | | | | |
| n-Hexane | U | J | | 50.0 | " | | | | | |
| cis-1,2-Dichloroethene | U | | | 50.0 | " | | | | | |
| Chloroform | U | | | 50.0 | " | | | | | |
| 1,1,1-Trichloroethane | U | | | 50.0 | " | | | | | |
| 1,2-Dichloroethane | U | | | 50.0 | " | | | | | |
| Cyclohexane | U | | | 50.0 | " | | | | | |
| Carbon Tetrachloride | U | | | 50.0 | " | | | | | |
| Benzene | U | | | 50.0 | " | | | | | |
| Trichloroethene | U | | | 50.0 | " | | | | | |
| 1,2-Dichloropropane | U | | | 50.0 | " | | | | | |
| Bromodichloromethane | U | | | 50.0 | " | | | | | |
| 1,4-Dioxane | U | J | | 50.0 | " | | | | | |
| cis-1,3-Dichloropropene | U | | | 50.0 | " | | | | | |
| 4-Methyl-2-pentanone | U | J | | 50.0 | " | | | | | |
| 2-Hexanone | U | J | | 50.0 | " | | | | | |
| trans-1,3-Dichloropropene | U | | | 50.0 | " | | | | | |
| Toluene | U | | | 50.0 | " | | | | | |
| 1,1,2-Trichloroethane | U | | | 50.0 | " | | | | | |
| Tetrachloroethene | U | | | 50.0 | " | | | | | |

Superfund, US EPA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Custom Cleaners
Project Number: [none]
Project Manager: Chi Tang

Reported:
Jun-20-12 08:00

Air Toxics by GC/MS - Quality Control
TechLaw - ESAT Contract

Batch EF20601 - Micro Purge and Trap

Blank (EF20601-BLK1)

Prepared & Analyzed: Jun-06-12

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Spike Level | Source Result | %REC | Limits | RPD | RPD Limit |
|---------------------------------------|--------|-----------------------|-----|--------------------|-------|----------------|------------------|------|--------|-----|--------------|
| 1,2-Dibromoethane (EDB) | U | | | 50.0 | PPTV | | | | | | |
| Chlorobenzene | U | | | 50.0 | " | | | | | | |
| Ethylbenzene | U | | | 50.0 | " | | | | | | |
| m,p-Xylene | U | | | 50.0 | " | | | | | | |
| o-Xylene | U | | | 50.0 | " | | | | | | |
| Styrene | U | J | | 50.0 | " | | | | | | |
| Bromoform | U | | | 50.0 | " | | | | | | |
| 1,1,2,2-Tetrachloroethane | U | | | 50.0 | " | | | | | | |
| 1,3,5-Trimethylbenzene | U | | | 50.0 | " | | | | | | |
| 1,2,4-Trimethylbenzene | U | | | 50.0 | " | | | | | | |
| 1,3-Dichlorobenzene | U | | | 50.0 | " | | | | | | |
| 1,4-Dichlorobenzene | U | | | 50.0 | " | | | | | | |
| 1,2-Dichlorobenzene | U | | | 50.0 | " | | | | | | |
| 1,2,4-Trichlorobenzene | U | | | 50.0 | " | | | | | | |
| Propene | U | | | 50.0 | " | | | | | | |
| 1,3-Butadiene | U | | | 50.0 | " | | | | | | |
| Benzyl chloride | U | | | 50.0 | " | | | | | | |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | U | | | 50.0 | " | | | | | | |
| 2-Propanol | U | J | | 50.0 | " | | | | | | |
| Acrolein | U | | | 50.0 | " | | | | | | |
| Acetonitrile | U | | | 50.0 | " | | | | | | |
| Methyl iodide | U | | | 50.0 | " | | | | | | |
| Chlorodifluoromethane | U | | | 50.0 | " | | | | | | |
| Methyl ethyl ketone | U | J | | 50.0 | " | | | | | | |
| 1,2,3-Trimethylbenzene | U | | | 50.0 | " | | | | | | |
| Isobutene | U | | | 50.0 | " | | | | | | |
| Propanal | U | J | | 50.0 | " | | | | | | |
| Pentane | U | J | | 50.0 | " | | | | | | |
| Isoprene | U | | | 50.0 | " | | | | | | |
| 1-Propanol | U | | | 50.0 | " | | | | | | |
| Cyclopentane | U | | | 50.0 | " | | | | | | |
| Methacrolein | U | | | 50.0 | " | | | | | | |

Superfund, US EPA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Custom Cleaners
Project Number: [none]
Project Manager: Chi Tang

Reported:
Jun-20-12 08:00

Air Toxics by GC/MS - Quality Control
TechLaw - ESAT Contract

Batch EF20601 - Micro Purge and Trap

Blank (EF20601-BLK1)

Prepared & Analyzed: Jun-06-12

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit |
|---------------------|--------|-----------------------|-----|--------------------|-------|----------------|------------------|------|----------------|-----|--------------|
| Methyl vinyl ketone | U | J | | 50.0 | PPTV | | | | | | |
| Butanal | U | J | | 50.0 | " | | | | | | |
| 1-Butanol | U | | | 50.0 | " | | | | | | |
| 2-Pentanone | U | J | | 50.0 | " | | | | | | |
| Pentanal | U | J | | 50.0 | " | | | | | | |
| 3-Pentanone | U | J | | 50.0 | " | | | | | | |
| 3-Hexanone | U | J | | 50.0 | " | | | | | | |

LCS (EF20601-BS1)

Prepared & Analyzed: Jun-06-12

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit |
|---------------------------|--------|-----------------------|-----|--------------------|-------|----------------|------------------|------|----------------|-----|--------------|
| Dichlorodifluoromethane | 539 | | | 50.0 | PPTV | 540 | | 99.8 | 80-120 | | |
| Dichlorotetrafluoroethane | 572 | | | 50.0 | " | 536 | | 107 | 80-120 | | |
| Chloromethane | 611 | | | 50.0 | " | 540 | | 113 | 70-130 | | |
| Vinyl chloride | 625 | J | | 50.0 | " | 540 | | 116 | 80-120 | | |
| Bromomethane | 548 | | | 50.0 | " | 530 | | 103 | 80-120 | | |
| Chloroethane | 532 | | | 50.0 | " | 522 | | 102 | 80-120 | | |
| Trichlorofluoromethane | 535 | | | 50.0 | " | 532 | | 101 | 80-120 | | |
| Acetone | 559 | J | | 50.0 | " | 555 | | 101 | 50-150 | | |
| 1,1-Dichloroethene | 547 | | | 50.0 | " | 530 | | 103 | 70-130 | | |
| Methylene chloride | 552 | | | 50.0 | " | 536 | | 103 | 70-130 | | |
| Carbon disulfide | 698 | J | | 50.0 | " | 542 | | 129 | 50-150 | | |
| Methyl tert-butyl ether | 565 | J | | 50.0 | " | 541 | | 104 | 70-130 | | |
| 1,1-Dichloroethane | 555 | | | 50.0 | " | 534 | | 104 | 70-130 | | |
| n-Hexane | 569 | J | | 50.0 | " | 530 | | 107 | 70-130 | | |
| cis-1,2-Dichloroethene | 561 | | | 50.0 | " | 540 | | 104 | 70-130 | | |
| Chloroform | 537 | | | 50.0 | " | 525 | | 102 | 80-120 | | |
| 1,1,1-Trichloroethane | 533 | | | 50.0 | " | 523 | | 102 | 80-120 | | |
| 1,2-Dichloroethane | 543 | | | 50.0 | " | 528 | | 103 | 80-120 | | |
| Cyclohexane | 553 | | | 50.0 | " | 528 | | 105 | 70-130 | | |
| Carbon Tetrachloride | 545 | | | 50.0 | " | 541 | | 101 | 80-120 | | |
| Benzene | 559 | | | 50.0 | " | 547 | | 102 | 80-120 | | |

gph 6-20-12

Matt Kobus, Chemist

Report Name: E120601 FINAL Jun 20 12 0800

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Superfund, US EPA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Custom Cleaners
Project Number: [none]
Project Manager: Chi Tang

Reported:
Jun-20-12 08:00

Air Toxics by GC/MS - Quality Control
TechLaw - ESAT Contract

Batch EF20601 - Micro Purge and Trap

LCS (EF20601-BS1)

Prepared & Analyzed: Jun-06-12

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit |
|---------------------------------------|--------|-----------------------|-----|--------------------|-------|----------------|------------------|------|----------------|-----|--------------|
| Trichloroethene | 544 | | | 50.0 | PPTV | 526 | | 103 | 80-120 | | |
| 1,2-Dichloropropane | 556 | | | 50.0 | " | 534 | | 104 | 80-120 | | |
| Bromodichloromethane | 542 | | | 50.0 | " | 532 | | 102 | 80-120 | | |
| 1,4-Dioxane | 470 | J | | 50.0 | " | 526 | | 89.4 | 80-120 | | |
| cis-1,3-Dichloropropene | 563 | | | 50.0 | " | 540 | | 104 | 80-120 | | |
| 4-Methyl-2-pentanone | 566 | J | | 50.0 | " | 535 | | 106 | 70-130 | | |
| 2-Hexanone | 593 | J | | 50.0 | " | 529 | | 112 | 70-130 | | |
| trans-1,3-Dichloropropene | 565 | | | 50.0 | " | 538 | | 105 | 80-120 | | |
| Toluene | 536 | | | 50.0 | " | 536 | | 100 | 80-120 | | |
| 1,1,2-Trichloroethane | 546 | | | 50.0 | " | 526 | | 104 | 80-120 | | |
| Tetrachloroethene | 564 | | | 50.0 | " | 526 | | 107 | 80-120 | | |
| 1,2-Dibromoethane (EDB) | 559 | | | 50.0 | " | 530 | | 105 | 80-120 | | |
| Chlorobenzene | 559 | | | 50.0 | " | 529 | | 106 | 80-120 | | |
| Ethylbenzene | 561 | | | 50.0 | " | 532 | | 105 | 80-120 | | |
| m,p-Xylene | 1120 | | | 50.0 | " | 1060 | | 105 | 80-120 | | |
| o-Xylene | 532 | | | 50.0 | " | 528 | | 101 | 80-120 | | |
| Styrene | 526 | J | | 50.0 | " | 555 | | 94.7 | 80-120 | | |
| Bromoform | 573 | | | 50.0 | " | 551 | | 104 | 80-120 | | |
| 1,1,2,2-Tetrachloroethane | 520 | | | 50.0 | " | 516 | | 101 | 80-120 | | |
| 1,3,5-Trimethylbenzene | 527 | | | 50.0 | " | 527 | | 100 | 70-130 | | |
| 1,2,4-Trimethylbenzene | 536 | | | 50.0 | " | 530 | | 101 | 70-130 | | |
| 1,3-Dichlorobenzene | 509 | | | 50.0 | " | 514 | | 99.0 | 80-120 | | |
| 1,4-Dichlorobenzene | 514 | | | 50.0 | " | 521 | | 98.7 | 80-120 | | |
| 1,2-Dichlorobenzene | 520 | | | 50.0 | " | 521 | | 99.9 | 80-120 | | |
| 1,2,4-Trichlorobenzene | 478 | | | 50.0 | " | 523 | | 91.4 | 50-150 | | |
| Propene | 514 | | | 50.0 | " | 520 | | 98.9 | 70-130 | | |
| 1,3-Butadiene | 591 | | | 50.0 | " | 511 | | 116 | 80-120 | | |
| Benzyl chloride | 557 | | | 50.0 | " | 531 | | 105 | 70-130 | | |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 546 | | | 50.0 | " | 533 | | 102 | 80-120 | | |
| 2-Propanol | 549 | J | | 50.0 | " | 536 | | 102 | 80-120 | | |
| Acrolein | 562 | | | 50.0 | " | 549 | | 102 | 80-120 | | |
| Acetonitrile | 541 | | | 50.0 | " | 546 | | 99.1 | 70-130 | | |

Superfund, US EPA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Custom Cleaners
Project Number: [none]
Project Manager: Chi Tang

Reported:
Jun-20-12 08:00

Air Toxics by GC/MS - Quality Control
TechLaw - ESAT Contract

Batch EF20601 - Micro Purge and Trap

LCS (EF20601-BS1)

Prepared & Analyzed: Jun-06-12

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Spike Level | Source Result | %REC Limits | RPD | RPD Limit |
|------------------------|--------|-----------------------|-----|--------------------|-------|----------------|------------------|----------------|-----|--------------|
| Methyl iodide | 542 | | | 50.0 | PPTV | 524 | 104 | 80-120 | | |
| Chlorodifluoromethane | 532 | | | 50.0 | " | 534 | 99.6 | 80-120 | | |
| Methyl ethyl ketone | 570 | J | | 50.0 | " | 546 | 104 | 80-120 | | |
| 1,2,3-Trimethylbenzene | 540 | | | 50.0 | " | 533 | 101 | 80-120 | | |
| Isobutene | 646 | | | 50.0 | " | 513 | 126 | 70-130 | | |
| Propanal | 563 | J | | 50.0 | " | 542 | 104 | 80-120 | | |
| Pentane | 580 | J | | 50.0 | " | 552 | 105 | 80-120 | | |
| Isoprene | 588 | | | 50.0 | " | 570 | 103 | 70-130 | | |
| 1-Propanol | 564 | | | 50.0 | " | 545 | 104 | 50-150 | | |
| Cyclopentane | 565 | | | 50.0 | " | 541 | 105 | 70-130 | | |
| Methacrolein | 577 | | | 50.0 | " | 552 | 104 | 70-130 | | |
| Methyl vinyl ketone | 565 | J | | 50.0 | " | 548 | 103 | 70-130 | | |
| Butanal | 569 | J | | 50.0 | " | 543 | 105 | 80-120 | | |
| 1-Butanol | 553 | | | 50.0 | " | 526 | 105 | 50-150 | | |
| 2-Pentanone | 571 | J | | 50.0 | " | 541 | 106 | 70-130 | | |
| Pentanal | 555 | J | | 50.0 | " | 537 | 103 | 70-130 | | |
| 3-Pentanone | 566 | J | | 50.0 | " | 531 | 107 | 80-120 | | |
| 3-Hexanone | 588 | J | | 50.0 | " | 531 | 111 | 80-120 | | |

LCS Dup (EF20601-BSD1)

Prepared: Jun-06-12 Analyzed: Jun-07-12

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Spike Level | Source Result | %REC Limits | RPD | RPD Limit |
|---------------------------|--------|-----------------------|-----|--------------------|-------|----------------|------------------|----------------|-------|--------------|
| Dichlorodifluoromethane | 514 | | | 50.0 | PPTV | 540 | 95.2 | 80-120 | 4.73 | 30 |
| Dichlorotetrafluoroethane | 529 | | | 50.0 | " | 536 | 98.8 | 80-120 | 7.78 | 30 |
| Chloromethane | 541 | | | 50.0 | " | 540 | 100 | 70-130 | 12.1 | 30 |
| Vinyl chloride | 539 | J | | 50.0 | " | 540 | 99.9 | 80-120 | 14.8 | 30 |
| Bromomethane | 531 | | | 50.0 | " | 530 | 100 | 80-120 | 3.18 | 30 |
| Chloroethane | 530 | | | 50.0 | " | 522 | 102 | 80-120 | 0.352 | 30 |
| Trichlorofluoromethane | 519 | | | 50.0 | " | 532 | 97.6 | 80-120 | 3.03 | 30 |
| Acetone | 544 | J | | 50.0 | " | 555 | 98.0 | 50-150 | 2.81 | 30 |
| 1,1-Dichloroethene | 531 | | | 50.0 | " | 530 | 100 | 70-130 | 2.93 | 30 |
| Methylene chloride | 532 | | | 50.0 | " | 536 | 99.2 | 70-130 | 3.62 | 30 |

Superfund, US EPA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Custom Cleaners
Project Number: [none]
Project Manager: Chi Tang

Reported:
Jun-20-12 08:00

Air Toxics by GC/MS - Quality Control

TechLaw - ESAT Contract

Batch EF20601 - Micro Purge and Trap

LCS Dup (EF20601-BSD1)

Prepared: Jun-06-12 Analyzed: Jun-07-12

| Prepared: Jun-06-12 Analyzed: Jun-07-12 | | | | | | | | | | | |
|---|--------|-----------------------|-----|--------------------|-------|----------------|------------------|------|----------------|------|--------------|
| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit |
| Carbon disulfide | 497 | J | | 50.0 | PPTV | 542 | | 91.7 | 50-150 | 33.7 | 30 |
| Methyl tert-butyl ether | 545 | J | | 50.0 | " | 541 | | 101 | 70-130 | 3.49 | 30 |
| 1,1-Dichloroethane | 537 | | | 50.0 | " | 534 | | 100 | 70-130 | 3.32 | 30 |
| n-Hexane | 554 | J | | 50.0 | " | 530 | | 104 | 70-130 | 2.64 | 30 |
| cis-1,2-Dichloroethene | 543 | | | 50.0 | " | 540 | | 100 | 70-130 | 3.38 | 30 |
| Chloroform | 518 | | | 50.0 | " | 525 | | 98.7 | 80-120 | 3.58 | 30 |
| 1,1,1-Trichloroethane | 516 | | | 50.0 | " | 523 | | 98.7 | 80-120 | 3.18 | 30 |
| 1,2-Dichloroethane | 522 | | | 50.0 | " | 528 | | 99.0 | 80-120 | 3.80 | 30 |
| Cyclohexane | 529 | | | 50.0 | " | 528 | | 100 | 70-130 | 4.38 | 30 |
| Carbon Tetrachloride | 535 | | | 50.0 | " | 541 | | 98.9 | 80-120 | 1.87 | 30 |
| Benzene | 537 | | | 50.0 | " | 547 | | 98.2 | 80-120 | 4.02 | 30 |
| Trichloroethene | 531 | | | 50.0 | " | 526 | | 101 | 80-120 | 2.47 | 30 |
| 1,2-Dichloropropane | 534 | | | 50.0 | " | 534 | | 100 | 80-120 | 4.09 | 30 |
| Bromodichloromethane | 526 | | | 50.0 | " | 532 | | 98.9 | 80-120 | 3.00 | 30 |
| 1,4-Dioxane | 531 | J | | 50.0 | " | 526 | | 101 | 80-120 | 12.1 | 30 |
| cis-1,3-Dichloropropene | 537 | | | 50.0 | " | 540 | | 99.5 | 80-120 | 4.59 | 30 |
| 4-Methyl-2-pentanone | 530 | J | | 50.0 | " | 535 | | 99.1 | 70-130 | 6.59 | 30 |
| 2-Hexanone | 536 | J | | 50.0 | " | 529 | | 101 | 70-130 | 10.1 | 30 |
| trans-1,3-Dichloropropene | 535 | | | 50.0 | " | 538 | | 99.5 | 80-120 | 5.46 | 30 |
| Toluene | 444 | | | 50.0 | " | 536 | | 82.9 | 80-120 | 18.7 | 30 |
| 1,1,2-Trichloroethane | 526 | | | 50.0 | " | 526 | | 99.9 | 80-120 | 3.88 | 30 |
| Tetrachloroethene | 540 | | | 50.0 | " | 526 | | 103 | 80-120 | 4.40 | 30 |
| 1,2-Dibromoethane (EDB) | 527 | | | 50.0 | " | 530 | | 99.4 | 80-120 | 5.94 | 30 |
| Chlorobenzene | 520 | | | 50.0 | " | 529 | | 98.3 | 80-120 | 7.13 | 30 |
| Ethylbenzene | 526 | | | 50.0 | " | 532 | | 98.9 | 80-120 | 6.47 | 30 |
| m,p-Xylene | 1060 | | | 50.0 | " | 1060 | | 99.6 | 80-120 | 5.51 | 30 |
| o-Xylene | 510 | | | 50.0 | " | 528 | | 96.6 | 80-120 | 4.16 | 30 |
| Styrene | 515 | J | | 50.0 | " | 555 | | 92.7 | 80-120 | 2.09 | 30 |
| Bromoform | 546 | | | 50.0 | " | 551 | | 99.1 | 80-120 | 4.81 | 30 |
| 1,1,2,2-Tetrachloroethane | 504 | | | 50.0 | " | 516 | | 97.8 | 80-120 | 2.96 | 30 |
| 1,3,5-Trimethylbenzene | 513 | | | 50.0 | " | 527 | | 97.3 | 70-130 | 2.71 | 30 |
| 1,2,4-Trimethylbenzene | 527 | | | 50.0 | " | 530 | | 99.5 | 70-130 | 1.60 | 30 |

Matt Kobus, Chemist

Report Name: E120601 FINAL Jun 20 12 0800

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Superfund, US EPA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Custom Cleaners
Project Number: [none]
Project Manager: Chi Tang

Reported:
Jun-20-12 08:00

Air Toxics by GC/MS - Quality Control

TechLaw - ESAT Contract

Batch EF20601 - Micro Purge and Trap

LCS Dup (EF20601-BSD1)

Prepared: Jun-06-12 Analyzed: Jun-07-12

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Spike Level | Source Result | %REC Limits | RPD | RPD Limit |
|---------------------------------------|--------|-----------------------|-----|--------------------|-------|----------------|------------------|----------------|------|--------------|
| 1,3-Dichlorobenzene | 497 | | | 50.0 | PPTV | 514 | 96.7 | 80-120 | 2.38 | 30 |
| 1,4-Dichlorobenzene | 506 | | | 50.0 | " | 521 | 97.2 | 80-120 | 1.54 | 30 |
| 1,2-Dichlorobenzene | 505 | | | 50.0 | " | 521 | 96.9 | 80-120 | 3.04 | 30 |
| 1,2,4-Trichlorobenzene | 511 | | | 50.0 | " | 523 | 97.6 | 50-150 | 6.59 | 30 |
| Propene | 506 | | | 50.0 | " | 520 | 97.3 | 70-130 | 1.65 | 30 |
| 1,3-Butadiene | 513 | | | 50.0 | " | 511 | 100 | 80-120 | 14.0 | 30 |
| Benzyl chloride | 518 | | | 50.0 | " | 531 | 97.6 | 70-130 | 7.16 | 30 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 529 | | | 50.0 | " | 533 | 99.2 | 80-120 | 3.18 | 30 |
| 2-Propanol | 690 | J | | 50.0 | " | 536 | 129 | 80-120 | 22.8 | 30 |
| Acrolein | 542 | | | 50.0 | " | 549 | 98.7 | 80-120 | 3.57 | 30 |
| Acetonitrile | 553 | | | 50.0 | " | 546 | 101 | 70-130 | 2.20 | 30 |
| Methyl iodide | 524 | | | 50.0 | " | 524 | 100 | 80-120 | 3.46 | 30 |
| Chlorodifluoromethane | 525 | | | 50.0 | " | 534 | 98.2 | 80-120 | 1.39 | 30 |
| Methyl ethyl ketone | 496 | J | | 50.0 | " | 546 | 90.9 | 80-120 | 13.8 | 30 |
| 1,2,3-Trimethylbenzene | 521 | | | 50.0 | " | 533 | 97.8 | 80-120 | 3.55 | 30 |
| Isobutene | 528 | | | 50.0 | " | 513 | 103 | 70-130 | 20.2 | 30 |
| Propanal | 557 | J | | 50.0 | " | 542 | 103 | 80-120 | 1.09 | 30 |
| Pentane | 556 | J | | 50.0 | " | 552 | 101 | 80-120 | 4.27 | 30 |
| Isoprene | 574 | | | 50.0 | " | 570 | 101 | 70-130 | 2.43 | 30 |
| 1-Propanol | 544 | | | 50.0 | " | 545 | 99.8 | 50-150 | 3.70 | 30 |
| Cyclopentane | 542 | | | 50.0 | " | 541 | 100 | 70-130 | 4.16 | 30 |
| Methacrolein | 553 | | | 50.0 | " | 552 | 100 | 70-130 | 4.20 | 30 |
| Methyl vinyl ketone | 548 | J | | 50.0 | " | 548 | 100 | 70-130 | 2.96 | 30 |
| Butanal | 530 | J | | 50.0 | " | 543 | 97.6 | 80-120 | 7.08 | 30 |
| 1-Butanol | 529 | | | 50.0 | " | 526 | 100 | 50-150 | 4.59 | 30 |
| 2-Pentanone | 560 | J | | 50.0 | " | 541 | 103 | 70-130 | 1.92 | 30 |
| Pentanal | 525 | J | | 50.0 | " | 537 | 97.7 | 70-130 | 5.62 | 30 |
| 3-Pentanone | 536 | J | | 50.0 | " | 531 | 101 | 80-120 | 5.47 | 30 |
| 3-Hexanone | 537 | J | | 50.0 | " | 531 | 101 | 80-120 | 9.15 | 30 |

Superfund, US EPA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

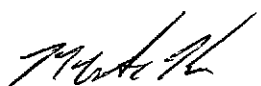
Project: Custom Cleaners
Project Number: [none]
Project Manager: Chi Tang

Reported:
Jun-20-12 08:00

Air Toxics by GC/MS - Quality Control
TechLaw - ESAT Contract

Batch EF20601 - Micro Purge and Trap

| Duplicate (EF20601-DUP1) | | Source: E120601-04 | | Prepared & Analyzed: Jun-06-12 | | | | | | | |
|---------------------------|--------|-----------------------|-----|--------------------------------|-------|----------------|------------------|----------------|------|--------------|--|
| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Spike Level | Source Result | %REC Limits | RPD | RPD Limit | |
| Dichlorodifluoromethane | U | | | 1000 | PPTV | | U | | | 200 | |
| Dichlorotetrafluoroethane | U | | | 1000 | " | | U | | | 200 | |
| Chloromethane | U | | | 1000 | " | | U | | | 200 | |
| Vinyl chloride | U | J | | 1000 | " | | U | | | 200 | |
| Bromomethane | U | | | 1000 | " | | U | | | 200 | |
| Chloroethane | U | | | 1000 | " | | U | | | 200 | |
| Trichlorofluoromethane | U | | | 1000 | " | | U | | | 200 | |
| Acetone | 2560 | J | | 1000 | " | | 2450 | | 4.45 | 200 | |
| 1,1-Dichloroethene | U | | | 1000 | " | | U | | | 200 | |
| Methylene chloride | U | | | 1000 | " | | U | | | 200 | |
| Carbon disulfide | U | J | | 1000 | " | | U | | | 200 | |
| Methyl tert-butyl ether | U | J | | 1000 | " | | U | | | 200 | |
| 1,1-Dichloroethane | U | | | 1000 | " | | U | | | 200 | |
| n-Hexane | U | J | | 1000 | " | | U | | | 200 | |
| cis-1,2-Dichloroethene | U | | | 1000 | " | | U | | | 200 | |
| Chloroform | U | | | 1000 | " | | U | | | 200 | |
| 1,1,1-Trichloroethane | U | | | 1000 | " | | U | | | 200 | |
| 1,2-Dichloroethane | U | | | 1000 | " | | U | | | 200 | |
| Cyclohexane | U | | | 1000 | " | | U | | | 200 | |
| Carbon Tetrachloride | U | | | 1000 | " | | U | | | 200 | |
| Benzene | U | | | 1000 | " | | U | | | 200 | |
| Trichloroethene | U | | | 1000 | " | | U | | | 200 | |
| 1,2-Dichloropropane | U | | | 1000 | " | | U | | | 200 | |
| Bromodichloromethane | U | | | 1000 | " | | U | | | 200 | |
| 1,4-Dioxane | U | J | | 1000 | " | | U | | | 200 | |
| cis-1,3-Dichloropropene | U | | | 1000 | " | | U | | | 200 | |
| 4-Methyl-2-pentanone | U | J | | 1000 | " | | U | | | 200 | |
| 2-Hexanone | U | J | | 1000 | " | | U | | | 200 | |
| trans-1,3-Dichloropropene | U | | | 1000 | " | | U | | | 200 | |
| 1,1,2-Trichloroethane | U | | | 1000 | " | | U | | | 200 | |
| Tetrachloroethene | 5110 | | | 1000 | " | | 5230 | | 2.40 | 200 | |
| 1,2-Dibromoethane (EDB) | U | | | 1000 | " | | U | | | 200 | |


Matt Kobus, Chemist

Report Name: E120601 FINAL Jun 20 12 0800

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Superfund, US EPA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Custom Cleaners
Project Number: [none]
Project Manager: Chi Tang

Reported:
Jun-20-12 08:00

Air Toxics by GC/MS - Quality Control
TechLaw - ESAT Contract

Batch EF20601 - Micro Purge and Trap

| Duplicate (EF20601-DUP1) | | Source: E120601-04 | | Prepared & Analyzed: Jun-06-12 | | | | | | | |
|---------------------------------------|--------|--------------------|-----|--------------------------------|-------|-------------|---------------|------|--------|-------|-----------|
| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Spike Level | Source Result | %REC | Limits | RPD | RPD Limit |
| Chlorobenzene | U | | | 1000 | PPTV | | U | | | | 200 |
| Ethylbenzene | 1250 | | | 1000 | " | | 1270 | | | 2.11 | 200 |
| m,p-Xylene | 4850 | | | 1000 | " | | 4940 | | | 1.91 | 200 |
| o-Xylene | 1980 | | | 1000 | " | | 2000 | | | 0.966 | 200 |
| Styrene | U | J | | 1000 | " | | U | | | | 200 |
| Bromoform | U | | | 1000 | " | | U | | | | 200 |
| 1,1,2,2-Tetrachloroethane | U | | | 1000 | " | | U | | | | 200 |
| 1,3,5-Trimethylbenzene | U | | | 1000 | " | | U | | | | 200 |
| 1,2,4-Trimethylbenzene | 2980 | | | 1000 | " | | 3050 | | | 2.42 | 200 |
| 1,3-Dichlorobenzene | U | | | 1000 | " | | U | | | | 200 |
| 1,4-Dichlorobenzene | U | | | 1000 | " | | U | | | | 200 |
| 1,2-Dichlorobenzene | U | | | 1000 | " | | U | | | | 200 |
| 1,2,4-Trichlorobenzene | U | | | 1000 | " | | U | | | | 200 |
| Propene | U | | | 1000 | " | | U | | | | 200 |
| 1,3-Butadiene | U | | | 1000 | " | | U | | | | 200 |
| Benzyl chloride | U | | | 1000 | " | | U | | | | 200 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | U | | | 1000 | " | | U | | | | 200 |
| 2-Propanol | 1190 | J | | 1000 | " | | 1260 | | | 5.56 | 200 |
| Acrolein | U | | | 1000 | " | | U | | | | 200 |
| Acetonitrile | U | | | 1000 | " | | U | | | | 200 |
| Methyl iodide | U | | | 1000 | " | | U | | | | 200 |
| Chlorodifluoromethane | U | | | 1000 | " | | U | | | | 200 |
| Methyl ethyl ketone | U | J | | 1000 | " | | U | | | | 200 |
| 1,2,3-Trimethylbenzene | U | | | 1000 | " | | U | | | | 200 |
| Isobutene | U | | | 1000 | " | | U | | | | 200 |
| Propanal | U | J | | 1000 | " | | U | | | | 200 |
| Pentane | U | J | | 1000 | " | | U | | | | 200 |
| Isoprene | U | | | 1000 | " | | U | | | | 200 |
| 1-Propanol | U | | | 1000 | " | | U | | | | 200 |
| Cyclopentane | U | | | 1000 | " | | U | | | | 200 |
| Methacrolein | U | | | 1000 | " | | U | | | | 200 |
| Methyl vinyl ketone | U | J | | 1000 | " | | U | | | | 200 |

Superfund, US EPA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Custom Cleaners
Project Number: [none]
Project Manager: Chi Tang

Reported:
Jun-20-12 08:00

Air Toxics by GC/MS - Quality Control
TechLaw - ESAT Contract

Batch EF20601 - Micro Purge and Trap

| Duplicate (EF20601-DUP1) | | | Source: E120601-04 | | Prepared & Analyzed: Jun-06-12 | | | | | | |
|--------------------------|--------|-----------------------|--------------------|--------------------|--------------------------------|----------------|------------------|------|----------------|-----|--------------|
| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit |
| Butanal | U | J | | 1000 | PPTV | | U | | | | 200 |
| 1-Butanol | U | | | 1000 | " | | U | | | | 200 |
| 2-Pentanone | U | J | | 1000 | " | | U | | | | 200 |
| Pentanal | U | J | | 1000 | " | | U | | | | 200 |
| 3-Pentanone | U | J | | 1000 | " | | U | | | | 200 |
| 3-Hexanone | U | J | | 1000 | " | | U | | | | 200 |

Batch EF20801 - Micro Purge and Trap

| Blank (EF20801-BLK1) | | | Prepared & Analyzed: Jun-07-12 | | | | | | | | |
|---------------------------|--------|-----------------------|--------------------------------|--------------------|-------|----------------|------------------|------|----------------|-----|--------------|
| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit |
| Dichlorodifluoromethane | U | | | 50.0 | PPTV | | | | | | |
| Dichlorotetrafluoroethane | U | | | 50.0 | " | | | | | | |
| Chloromethane | U | | | 50.0 | " | | | | | | |
| Vinyl chloride | U | J | | 50.0 | " | | | | | | |
| Bromomethane | U | | | 50.0 | " | | | | | | |
| Chloroethane | U | | | 50.0 | " | | | | | | |
| Trichlorofluoromethane | U | | | 50.0 | " | | | | | | |
| Acetone | U | J | | 50.0 | " | | | | | | |
| 1,1-Dichloroethene | U | | | 50.0 | " | | | | | | |
| Methylene chloride | U | | | 50.0 | " | | | | | | |
| Carbon disulfide | U | J | | 50.0 | " | | | | | | |
| Methyl tert-butyl ether | U | J | | 50.0 | " | | | | | | |
| 1,1-Dichloroethane | U | | | 50.0 | " | | | | | | |
| n-Hexane | U | J | | 50.0 | " | | | | | | |
| cis-1,2-Dichloroethene | U | | | 50.0 | " | | | | | | |
| Chloroform | U | | | 50.0 | " | | | | | | |
| 1,1,1-Trichloroethane | U | | | 50.0 | " | | | | | | |
| 1,2-Dichloroethane | U | | | 50.0 | " | | | | | | |
| Cyclohexane | U | | | 50.0 | " | | | | | | |
| Carbon Tetrachloride | U | | | 50.0 | " | | | | | | |
| Benzene | U | | | 50.0 | " | | | | | | |

Superfund, US EPA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Custom Cleaners
Project Number: [none]
Project Manager: Chi Tang

Reported:
Jun-20-12 08:00

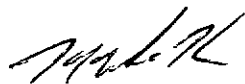
Air Toxics by GC/MS - Quality Control
TechLaw - ESAT Contract

Batch EF20801 - Micro Purge and Trap

Blank (EF20801-BLK1)

Prepared & Analyzed: Jun-07-12

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Spike Level | Source Result | %REC Limits | RPD | RPD Limit |
|---------------------------------------|--------|-----------------------|-----|--------------------|-------|----------------|------------------|----------------|-----|--------------|
| Trichloroethene | U | | | 50.0 | PPTV | | | | | |
| 1,2-Dichloropropane | U | | | 50.0 | " | | | | | |
| Bromodichloromethane | U | | | 50.0 | " | | | | | |
| 1,4-Dioxane | U | J | | 50.0 | " | | | | | |
| cis-1,3-Dichloropropene | U | | | 50.0 | " | | | | | |
| 4-Methyl-2-pentanone | U | J | | 50.0 | " | | | | | |
| 2-Hexanone | U | J | | 50.0 | " | | | | | |
| trans-1,3-Dichloropropene | U | | | 50.0 | " | | | | | |
| Toluene | U | | | 50.0 | " | | | | | |
| 1,1,2-Trichloroethane | U | | | 50.0 | " | | | | | |
| Tetrachloroethene | U | | | 50.0 | " | | | | | |
| 1,2-Dibromoethane (EDB) | U | | | 50.0 | " | | | | | |
| Chlorobenzene | U | | | 50.0 | " | | | | | |
| Ethylbenzene | U | | | 50.0 | " | | | | | |
| m,p-Xylene | U | | | 50.0 | " | | | | | |
| o-Xylene | U | | | 50.0 | " | | | | | |
| Styrene | U | J | | 50.0 | " | | | | | |
| Bromoform | U | | | 50.0 | " | | | | | |
| 1,1,2,2-Tetrachloroethane | U | | | 50.0 | " | | | | | |
| 1,3,5-Trimethylbenzene | U | | | 50.0 | " | | | | | |
| 1,2,4-Trimethylbenzene | U | | | 50.0 | " | | | | | |
| 1,3-Dichlorobenzene | U | | | 50.0 | " | | | | | |
| 1,4-Dichlorobenzene | U | | | 50.0 | " | | | | | |
| 1,2-Dichlorobenzene | U | | | 50.0 | " | | | | | |
| 1,2,4-Trichlorobenzene | U | | | 50.0 | " | | | | | |
| Propene | U | | | 50.0 | " | | | | | |
| 1,3-Butadiene | U | | | 50.0 | " | | | | | |
| Benzyl chloride | U | | | 50.0 | " | | | | | |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | U | | | 50.0 | " | | | | | |
| 2-Propanol | U | J | | 50.0 | " | | | | | |
| Acrolein | U | | | 50.0 | " | | | | | |
| Acetonitrile | U | | | 50.0 | " | | | | | |


Matt Kobus, Chemist

Report Name: E120601 FINAL Jun 20 12 0800

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Superfund, US EPA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Custom Cleaners
Project Number: [none]
Project Manager: Chi Tang

Reported:
Jun-20-12 08:00

Air Toxics by GC/MS - Quality Control
TechLaw - ESAT Contract

Batch EF20801 - Micro Purge and Trap

Blank (EF20801-BLK1)

Prepared & Analyzed: Jun-07-12

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Spike Level | Source Result | %REC | Limits | RPD | RPD Limit |
|------------------------|--------|-----------------------|-----|--------------------|-------|----------------|------------------|------|--------|-----|--------------|
| Methyl iodide | U | | | 50.0 | PPTV | | | | | | |
| Chlorodifluoromethane | U | | | 50.0 | " | | | | | | |
| Methyl ethyl ketone | U | J | | 50.0 | " | | | | | | |
| 1,2,3-Trimethylbenzene | U | | | 50.0 | " | | | | | | |
| Isobutene | U | | | 50.0 | " | | | | | | |
| Propanal | U | J | | 50.0 | " | | | | | | |
| Pentane | U | J | | 50.0 | " | | | | | | |
| Isoprene | U | | | 50.0 | " | | | | | | |
| 1-Propanol | U | | | 50.0 | " | | | | | | |
| Cyclopentane | U | | | 50.0 | " | | | | | | |
| Methacrolein | U | | | 50.0 | " | | | | | | |
| Methyl vinyl ketone | U | J | | 50.0 | " | | | | | | |
| Butanal | U | J | | 50.0 | " | | | | | | |
| 1-Butanol | U | | | 50.0 | " | | | | | | |
| 2-Pentanone | U | J | | 50.0 | " | | | | | | |
| Pentanal | U | J | | 50.0 | " | | | | | | |
| 3-Pentanone | U | J | | 50.0 | " | | | | | | |
| 3-Hexanone | U | J | | 50.0 | " | | | | | | |

LCS (EF20801-BS1)

Prepared & Analyzed: Jun-07-12

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Spike Level | Source Result | %REC | Limits | RPD | RPD Limit |
|---------------------------|--------|-----------------------|-----|--------------------|-------|----------------|------------------|------|--------|-----|--------------|
| Dichlorodifluoromethane | 527 | | | 50.0 | PPTV | 540 | | 97.6 | 80-120 | | |
| Dichlorotetrafluoroethane | 544 | | | 50.0 | " | 536 | | 101 | 80-120 | | |
| Chloromethane | 576 | | | 50.0 | " | 540 | | 107 | 70-130 | | |
| Vinyl chloride | 596 | J | | 50.0 | " | 540 | | 110 | 80-120 | | |
| Bromomethane | 530 | | | 50.0 | " | 530 | | 99.9 | 80-120 | | |
| Chloroethane | 507 | | | 50.0 | " | 522 | | 97.1 | 80-120 | | |
| Trichlorofluoromethane | 518 | | | 50.0 | " | 532 | | 97.4 | 80-120 | | |
| Acetone | 534 | J | | 50.0 | " | 555 | | 96.2 | 50-150 | | |
| 1,1-Dichloroethene | 523 | | | 50.0 | " | 530 | | 98.7 | 70-130 | | |
| Methylene chloride | 532 | | | 50.0 | " | 536 | | 99.2 | 70-130 | | |

Matt Kobus, Chemist

Report Name: E120601 FINAL Jun 20 12 0800

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Superfund, US EPA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Custom Cleaners
Project Number: [none]
Project Manager: Chi Tang

Reported:
Jun-20-12 08:00

Air Toxics by GC/MS - Quality Control
TechLaw - ESAT Contract

Batch EF20801 - Micro Purge and Trap

LCS (EF20801-BS1)

Prepared & Analyzed: Jun-07-12

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Spike Level | Source Result | %REC Limits | RPD | RPD Limit |
|---------------------------|--------|-----------------------|-----|--------------------|-------|----------------|------------------|----------------|--------|--------------|
| Carbon disulfide | 591 | J | | 50.0 | PPTV | 542 | | 109 | 50-150 | |
| Methyl tert-butyl ether | 549 | J | | 50.0 | " | 541 | | 101 | 70-130 | |
| 1,1-Dichloroethane | 531 | | | 50.0 | " | 534 | | 99.4 | 70-130 | |
| n-Hexane | 535 | J | | 50.0 | " | 530 | | 101 | 70-130 | |
| cis-1,2-Dichloroethene | 544 | | | 50.0 | " | 540 | | 101 | 70-130 | |
| Chloroform | 518 | | | 50.0 | " | 525 | | 98.7 | 80-120 | |
| 1,1,1-Trichloroethane | 514 | | | 50.0 | " | 523 | | 98.2 | 80-120 | |
| 1,2-Dichloroethane | 518 | | | 50.0 | " | 528 | | 98.1 | 80-120 | |
| Cyclohexane | 531 | | | 50.0 | " | 528 | | 100 | 70-130 | |
| Carbon Tetrachloride | 537 | | | 50.0 | " | 541 | | 99.2 | 80-120 | |
| Benzene | 534 | | | 50.0 | " | 547 | | 97.6 | 80-120 | |
| Trichloroethene | 530 | | | 50.0 | " | 526 | | 101 | 80-120 | |
| 1,2-Dichloropropane | 539 | | | 50.0 | " | 534 | | 101 | 80-120 | |
| Bromodichloromethane | 525 | | | 50.0 | " | 532 | | 98.7 | 80-120 | |
| 1,4-Dioxane | 472 | J | | 50.0 | " | 526 | | 89.8 | 80-120 | |
| cis-1,3-Dichloropropene | 545 | | | 50.0 | " | 540 | | 101 | 80-120 | |
| 4-Methyl-2-pentanone | 525 | J | | 50.0 | " | 535 | | 98.2 | 70-130 | |
| 2-Hexanone | 525 | J | | 50.0 | " | 529 | | 99.2 | 70-130 | |
| trans-1,3-Dichloropropene | 546 | | | 50.0 | " | 538 | | 101 | 80-120 | |
| Toluene | 472 | | | 50.0 | " | 536 | | 88.1 | 80-120 | |
| 1,1,2-Trichloroethane | 532 | | | 50.0 | " | 526 | | 101 | 80-120 | |
| Tetrachloroethene | 548 | | | 50.0 | " | 526 | | 104 | 80-120 | |
| 1,2-Dibromoethane (EDB) | 533 | | | 50.0 | " | 530 | | 101 | 80-120 | |
| Chlorobenzene | 534 | | | 50.0 | " | 529 | | 101 | 80-120 | |
| Ethylbenzene | 543 | | | 50.0 | " | 532 | | 102 | 80-120 | |
| m,p-Xylene | 1080 | | | 50.0 | " | 1060 | | 102 | 80-120 | |
| o-Xylene | 516 | | | 50.0 | " | 528 | | 97.7 | 80-120 | |
| Styrene | 506 | J | | 50.0 | " | 555 | | 91.2 | 80-120 | |
| Bromoform | 564 | | | 50.0 | " | 551 | | 102 | 80-120 | |
| 1,1,2,2-Tetrachloroethane | 508 | | | 50.0 | " | 516 | | 98.5 | 80-120 | |
| 1,3,5-Trimethylbenzene | 516 | | | 50.0 | " | 527 | | 98.0 | 70-130 | |
| 1,2,4-Trimethylbenzene | 516 | | | 50.0 | " | 530 | | 97.4 | 70-130 | |

Matt Kobus 6-20-12

Matt Kobus, Chemist

Report Name: E120601 FINAL Jun 20 12 0800

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Superfund, US EPA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Custom Cleaners
Project Number: [none]
Project Manager: Chi Tang

Reported:
Jun-20-12 08:00

Air Toxics by GC/MS - Quality Control
TechLaw - ESAT Contract

Batch EF20801 - Micro Purge and Trap

LCS (EF20801-BS1)

Prepared & Analyzed: Jun-07-12

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Spike Level | Source Result | %REC Limits | RPD | RPD Limit |
|---------------------------------------|--------|-----------------------|-----|--------------------|-------|----------------|------------------|----------------|-----|--------------|
| 1,3-Dichlorobenzene | 499 | | | 50.0 | PPTV | 514 | 97.1 | 80-120 | | |
| 1,4-Dichlorobenzene | 509 | | | 50.0 | " | 521 | 97.6 | 80-120 | | |
| 1,2-Dichlorobenzene | 497 | | | 50.0 | " | 521 | 95.3 | 80-120 | | |
| 1,2,4-Trichlorobenzene | 500 | | | 50.0 | " | 523 | 95.7 | 50-150 | | |
| Propene | 502 | | | 50.0 | " | 520 | 96.6 | 70-130 | | |
| 1,3-Butadiene | 563 | | | 50.0 | " | 511 | 110 | 80-120 | | |
| Benzyl chloride | 527 | | | 50.0 | " | 531 | 99.2 | 70-130 | | |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 527 | | | 50.0 | " | 533 | 98.9 | 80-120 | | |
| 2-Propanol | 541 | J | | 50.0 | " | 536 | 101 | 80-120 | | |
| Acrolein | 522 | | | 50.0 | " | 549 | 95.1 | 80-120 | | |
| Acetonitrile | 509 | | | 50.0 | " | 546 | 93.2 | 70-130 | | |
| Methyl iodide | 522 | | | 50.0 | " | 524 | 99.6 | 80-120 | | |
| Chlorodifluoromethane | 514 | | | 50.0 | " | 534 | 96.3 | 80-120 | | |
| Methyl ethyl ketone | 513 | J | | 50.0 | " | 546 | 94.0 | 80-120 | | |
| 1,2,3-Trimethylbenzene | 513 | | | 50.0 | " | 533 | 96.3 | 80-120 | | |
| Isobutene | 601 | J | | 50.0 | " | 513 | 117 | 70-130 | | |
| Propanal | 545 | | | 50.0 | " | 542 | 100 | 80-120 | | |
| Pentane | 560 | J | | 50.0 | " | 552 | 102 | 80-120 | | |
| Isoprene | 557 | | | 50.0 | " | 570 | 97.8 | 70-130 | | |
| 1-Propanol | 537 | | | 50.0 | " | 545 | 98.6 | 50-150 | | |
| Cyclopentane | 539 | | | 50.0 | " | 541 | 99.6 | 70-130 | | |
| Methacrolein | 566 | | | 50.0 | " | 552 | 102 | 70-130 | | |
| Methyl vinyl ketone | 543 | J | | 50.0 | " | 548 | 99.1 | 70-130 | | |
| Butanal | 552 | J | | 50.0 | " | 543 | 102 | 80-120 | | |
| 1-Butanol | 528 | | | 50.0 | " | 526 | 100 | 50-150 | | |
| 2-Pentanone | 553 | J | | 50.0 | " | 541 | 102 | 70-130 | | |
| Pentanal | 527 | J | | 50.0 | " | 537 | 98.1 | 70-130 | | |
| 3-Pentanone | 546 | J | | 50.0 | " | 531 | 103 | 80-120 | | |
| 3-Hexanone | 539 | J | | 50.0 | " | 531 | 102 | 80-120 | | |

Superfund, US EPA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Custom Cleaners
Project Number: [none]
Project Manager: Chi Tang

Reported:
Jun-20-12 08:00

Air Toxics by GC/MS - Quality Control
TechLaw - ESAT Contract

Batch EF20801 - Micro Purge and Trap

LCS Dup (EF20801-BSD1)

Prepared: Jun-07-12 Analyzed: Jun-08-12

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Spike Level | Source Result | %REC Limits | RPD | RPD Limit |
|---------------------------|--------|-----------------------|-----|--------------------|-------|----------------|------------------|----------------|--------|--------------|
| Dichlorodifluoromethane | 515 | | | 50.0 | PPTV | 540 | 95.5 | 80-120 | 2.22 | 30 |
| Dichlorotetrafluoroethane | 520 | | | 50.0 | " | 536 | 97.0 | 80-120 | 4.45 | 30 |
| Chloromethane | 539 | | | 50.0 | " | 540 | 99.8 | 70-130 | 6.65 | 30 |
| Vinyl chloride | 563 | J | | 50.0 | " | 540 | 104 | 80-120 | 5.74 | 30 |
| Bromomethane | 514 | | | 50.0 | " | 530 | 97.0 | 80-120 | 2.93 | 30 |
| Chloroethane | 508 | | | 50.0 | " | 522 | 97.2 | 80-120 | 0.108 | 30 |
| Trichlorofluoromethane | 514 | | | 50.0 | " | 532 | 96.5 | 80-120 | 0.898 | 30 |
| Acetone | 499 | J | | 50.0 | " | 555 | 89.9 | 50-150 | 6.77 | 30 |
| 1,1-Dichloroethene | 523 | | | 50.0 | " | 530 | 98.6 | 70-130 | 0.134 | 30 |
| Methylene chloride | 523 | | | 50.0 | " | 536 | 97.6 | 70-130 | 1.66 | 30 |
| Carbon disulfide | 513 | J | | 50.0 | " | 542 | 94.6 | 50-150 | 14.1 | 30 |
| Methyl tert-butyl ether | 544 | J | | 50.0 | " | 541 | 100 | 70-130 | 0.926 | 30 |
| 1,1-Dichloroethane | 527 | | | 50.0 | " | 534 | 98.7 | 70-130 | 0.751 | 30 |
| n-Hexane | 527 | J | | 50.0 | " | 530 | 99.5 | 70-130 | 1.43 | 30 |
| cis-1,2-Dichloroethene | 537 | | | 50.0 | " | 540 | 99.4 | 70-130 | 1.31 | 30 |
| Chloroform | 506 | | | 50.0 | " | 525 | 96.4 | 80-120 | 2.35 | 30 |
| 1,1,1-Trichloroethane | 514 | | | 50.0 | " | 523 | 98.3 | 80-120 | 0.0953 | 30 |
| 1,2-Dichloroethane | 516 | | | 50.0 | " | 528 | 97.8 | 80-120 | 0.317 | 30 |
| Cyclohexane | 524 | | | 50.0 | " | 528 | 99.2 | 70-130 | 1.26 | 30 |
| Carbon Tetrachloride | 525 | | | 50.0 | " | 541 | 97.1 | 80-120 | 2.10 | 30 |
| Benzene | 522 | | | 50.0 | " | 547 | 95.5 | 80-120 | 2.21 | 30 |
| Trichloroethene | 518 | | | 50.0 | " | 526 | 98.5 | 80-120 | 2.22 | 30 |
| 1,2-Dichloropropane | 524 | | | 50.0 | " | 534 | 98.1 | 80-120 | 2.87 | 30 |
| Bromodichloromethane | 520 | | | 50.0 | " | 532 | 97.7 | 80-120 | 1.06 | 30 |
| 1,4-Dioxane | 489 | J | | 50.0 | " | 526 | 92.9 | 80-120 | 3.39 | 30 |
| cis-1,3-Dichloropropene | 541 | | | 50.0 | " | 540 | 100 | 80-120 | 0.757 | 30 |
| 4-Methyl-2-pentanone | 526 | J | | 50.0 | " | 535 | 98.3 | 70-130 | 0.156 | 30 |
| 2-Hexanone | 512 | J | | 50.0 | " | 529 | 96.8 | 70-130 | 2.46 | 30 |
| trans-1,3-Dichloropropene | 538 | | | 50.0 | " | 538 | 99.9 | 80-120 | 1.46 | 30 |
| Toluene | 440 | | | 50.0 | " | 536 | 82.0 | 80-120 | 7.16 | 30 |
| 1,1,2-Trichloroethane | 514 | | | 50.0 | " | 526 | 97.7 | 80-120 | 3.56 | 30 |
| Tetrachloroethene | 526 | | | 50.0 | " | 526 | 99.9 | 80-120 | 4.16 | 30 |

Chi Tang

6-20-12

Matt Kobus, Chemist

Report Name: E120601 FINAL Jun 20 12 0800

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Superfund, US EPA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Custom Cleaners
Project Number: [none]
Project Manager: Chi Tang

Reported:
Jun-20-12 08:00

Air Toxics by GC/MS - Quality Control
TechLaw - ESAT Contract

Batch EF20801 - Micro Purge and Trap

LCS Dup (EF20801-BSD1)

Prepared: Jun-07-12 Analyzed: Jun-08-12

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Spike Level | Source Result | %REC Limits | RPD | RPD Limit |
|---------------------------------------|--------|-----------------------|-----|--------------------|-------|----------------|------------------|----------------|--------|--------------|
| 1,2-Dibromoethane (EDB) | 522 | | | 50.0 | PPTV | 530 | | 98.6 80-120 | 1.97 | 30 |
| Chlorobenzene | 520 | | | 50.0 | " | 529 | | 98.3 80-120 | 2.56 | 30 |
| Ethylbenzene | 523 | | | 50.0 | " | 532 | | 98.3 80-120 | 3.80 | 30 |
| m,p-Xylene | 1040 | | | 50.0 | " | 1060 | | 98.1 80-120 | 3.69 | 30 |
| o-Xylene | 507 | | | 50.0 | " | 528 | | 96.0 80-120 | 1.84 | 30 |
| Styrene | 496 | J | | 50.0 | " | 555 | | 89.4 80-120 | 1.99 | 30 |
| Bromoform | 544 | | | 50.0 | " | 551 | | 98.7 80-120 | 3.66 | 30 |
| 1,1,2,2-Tetrachloroethane | 496 | | | 50.0 | " | 516 | | 96.2 80-120 | 2.37 | 30 |
| 1,3,5-Trimethylbenzene | 507 | | | 50.0 | " | 527 | | 96.2 70-130 | 1.80 | 30 |
| 1,2,4-Trimethylbenzene | 512 | | | 50.0 | " | 530 | | 96.6 70-130 | 0.766 | 30 |
| 1,3-Dichlorobenzene | 492 | | | 50.0 | " | 514 | | 95.7 80-120 | 1.45 | 30 |
| 1,4-Dichlorobenzene | 504 | | | 50.0 | " | 521 | | 96.7 80-120 | 0.988 | 30 |
| 1,2-Dichlorobenzene | 493 | | | 50.0 | " | 521 | | 94.6 80-120 | 0.804 | 30 |
| 1,2,4-Trichlorobenzene | 501 | | | 50.0 | " | 523 | | 95.8 50-150 | 0.112 | 30 |
| Propene | 487 | | | 50.0 | " | 520 | | 93.7 70-130 | 3.00 | 30 |
| 1,3-Butadiene | 569 | | | 50.0 | " | 511 | | 111 80-120 | 0.957 | 30 |
| Benzyl chloride | 526 | | | 50.0 | " | 531 | | 99.0 70-130 | 0.198 | 30 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 521 | | | 50.0 | " | 533 | | 97.8 80-120 | 1.15 | 30 |
| 2-Propanol | 538 | J | | 50.0 | " | 536 | | 100 80-120 | 0.738 | 30 |
| Acrolein | 509 | | | 50.0 | " | 549 | | 92.7 80-120 | 2.50 | 30 |
| Acetonitrile | 510 | | | 50.0 | " | 546 | | 93.4 70-130 | 0.159 | 30 |
| Methyl iodide | 521 | | | 50.0 | " | 524 | | 99.3 80-120 | 0.255 | 30 |
| Chlorodifluoromethane | 505 | | | 50.0 | " | 534 | | 94.5 80-120 | 1.87 | 30 |
| Methyl ethyl ketone | 484 | J | | 50.0 | " | 546 | | 88.7 80-120 | 5.76 | 30 |
| 1,2,3-Trimethylbenzene | 509 | | | 50.0 | " | 533 | | 95.6 80-120 | 0.743 | 30 |
| Isobutene | 594 | | | 50.0 | " | 513 | | 116 70-130 | 1.17 | 30 |
| Propanal | 545 | J | | 50.0 | " | 542 | | 101 80-120 | 0.0735 | 30 |
| Pentane | 555 | J | | 50.0 | " | 552 | | 101 80-120 | 0.968 | 30 |
| Isoprene | 569 | | | 50.0 | " | 570 | | 99.8 70-130 | 2.05 | 30 |
| 1-Propanol | 541 | | | 50.0 | " | 545 | | 99.2 50-150 | 0.653 | 30 |
| Cyclopentane | 549 | | | 50.0 | " | 541 | | 102 70-130 | 1.90 | 30 |
| Methacrolein | 552 | | | 50.0 | " | 552 | | 100 70-130 | 2.46 | 30 |

Matt Kobus 6-20-12

Matt Kobus, Chemist

Report Name: E120601 FINAL Jun 20 12 0800

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Superfund, US EPA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Custom Cleaners
Project Number: [none]
Project Manager: Chi Tang

Reported:
Jun-20-12 08:00

Air Toxics by GC/MS - Quality Control
TechLaw - ESAT Contract

Batch EF20801 - Micro Purge and Trap

LCS Dup (EF20801-BSD1)

Prepared: Jun-07-12 Analyzed: Jun-08-12

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Spike Level | Source Result | %REC | Limits | RPD | RPD Limit |
|---------------------|--------|-----------------------|-----|--------------------|-------|----------------|------------------|------|--------|-------|--------------|
| Methyl vinyl ketone | 536 | J | | 50.0 | PPTV | 548 | | 97.9 | 70-130 | 1.23 | 30 |
| Butanal | 526 | J | | 50.0 | " | 543 | | 96.9 | 80-120 | 4.78 | 30 |
| 1-Butanol | 522 | | | 50.0 | " | 526 | | 99.2 | 50-150 | 1.22 | 30 |
| 2-Pentanone | 544 | J | | 50.0 | " | 541 | | 101 | 70-130 | 1.70 | 30 |
| Pentanal | 519 | J | | 50.0 | " | 537 | | 96.7 | 70-130 | 1.38 | 30 |
| 3-Pentanone | 523 | J | | 50.0 | " | 531 | | 98.6 | 80-120 | 4.16 | 30 |
| 3-Hexanone | 536 | J | | 50.0 | " | 531 | | 101 | 80-120 | 0.681 | 30 |

Duplicate (EF20801-DUP1)

Source: E120601-07

Prepared & Analyzed: Jun-07-12

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Spike Level | Source Result | %REC | Limits | RPD | RPD Limit |
|---------------------------|--------|-----------------------|-----|--------------------|-------|----------------|------------------|------|--------|------|--------------|
| Dichlorodifluoromethane | 404 | | | 50.0 | PPTV | | 415 | | | 2.62 | 200 |
| Dichlorotetrafluoroethane | U | | | 50.0 | " | | U | | | | 200 |
| Chloromethane | 567 | | | 50.0 | " | | 545 | | | 3.93 | 200 |
| Vinyl chloride | U | J | | 50.0 | " | | U | | | | 200 |
| Bromomethane | U | | | 50.0 | " | | U | | | | 200 |
| Chloroethane | U | | | 50.0 | " | | U | | | | 200 |
| Trichlorofluoromethane | 228 | | | 50.0 | " | | 219 | | | 3.65 | 200 |
| Acetone | 5930 | J | | 50.0 | " | | 4890 | | | 19.3 | 200 |
| 1,1-Dichloroethene | U | | | 50.0 | " | | U | | | | 200 |
| Methylene chloride | 57.9 | | | 50.0 | " | | 56.9 | | | 1.66 | 200 |
| Carbon disulfide | U | J | | 50.0 | " | | U | | | | 200 |
| Methyl tert-butyl ether | U | J | | 50.0 | " | | U | | | | 200 |
| 1,1-Dichloroethane | U | | | 50.0 | " | | U | | | | 200 |
| n-Hexane | 119 | J | | 50.0 | " | | 113 | | | 5.10 | 200 |
| cis-1,2-Dichloroethene | U | | | 50.0 | " | | U | | | | 200 |
| Chloroform | U | | | 50.0 | " | | U | | | | 200 |
| 1,1,1-Trichloroethane | U | | | 50.0 | " | | U | | | | 200 |
| 1,2-Dichloroethane | U | | | 50.0 | " | | U | | | | 200 |
| Cyclohexane | U | | | 50.0 | " | | U | | | | 200 |
| Carbon Tetrachloride | 85.5 | | | 50.0 | " | | 82.6 | | | 3.50 | 200 |
| Benzene | 108 | | | 50.0 | " | | 103 | | | 4.23 | 200 |



TechLaw Inc ESAT Region 5
 536 South Clark Street, Suite 734
 Chicago, IL 60605
 (312) 353-2964
 (312) 353-8307 (Fax)
www.techlawinc.com

Superfund, US EPA Region 5
 77 West Jackson Boulevard
 Chicago IL, 60604

Project: Custom Cleaners
 Project Number: [none]
 Project Manager: Chi Tang

Reported:
 Jun-20-12 08:00

Air Toxics by GC/MS - Quality Control

TechLaw - ESAT Contract

Batch EF20801 - Micro Purge and Trap

| Duplicate (EF20801-DUP1) | | Source: E120601-07 | | Prepared & Analyzed: Jun-07-12 | | | | | | | |
|---------------------------------------|--------|-----------------------|-----|--------------------------------|-------|----------------|------------------|----------------|------|--------------|--|
| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Spike Level | Source Result | %REC Limits | RPD | RPD Limit | |
| Trichloroethene | U | | | 50.0 | PPTV | | U | | | 200 | |
| 1,2-Dichloropropane | U | | | 50.0 | " | | U | | | 200 | |
| Bromodichloromethane | U | | | 50.0 | " | | U | | | 200 | |
| 1,4-Dioxane | U | J | | 50.0 | " | | U | | | 200 | |
| cis-1,3-Dichloropropene | U | | | 50.0 | " | | U | | | 200 | |
| 4-Methyl-2-pentanone | U | J | | 50.0 | " | | U | | | 200 | |
| 2-Hexanone | U | J | | 50.0 | " | | U | | | 200 | |
| trans-1,3-Dichloropropene | U | | | 50.0 | " | | U | | | 200 | |
| Toluene | 292 | | | 50.0 | " | | 276 | | 5.62 | 200 | |
| 1,1,2-Trichloroethane | U | | | 50.0 | " | | U | | | 200 | |
| Tetrachloroethene | 210 | | | 50.0 | " | | 205 | | 2.53 | 200 | |
| 1,2-Dibromoethane (EDB) | U | | | 50.0 | " | | U | | | 200 | |
| Chlorobenzene | U | | | 50.0 | " | | U | | | 200 | |
| Ethylbenzene | 62.3 | | | 50.0 | " | | 60.3 | | 3.20 | 200 | |
| m,p-Xylene | 235 | | | 50.0 | " | | 224 | | 4.55 | 200 | |
| o-Xylene | 84.3 | | | 50.0 | " | | 81.3 | | 3.61 | 200 | |
| Styrene | U | J | | 50.0 | " | | U | | | 200 | |
| Bromoform | U | | | 50.0 | " | | U | | | 200 | |
| 1,1,2,2-Tetrachloroethane | U | | | 50.0 | " | | U | | | 200 | |
| 1,3,5-Trimethylbenzene | U | | | 50.0 | " | | U | | | 200 | |
| 1,2,4-Trimethylbenzene | 105 | | | 50.0 | " | | 101 | | 4.36 | 200 | |
| 1,3-Dichlorobenzene | U | | | 50.0 | " | | U | | | 200 | |
| 1,4-Dichlorobenzene | U | | | 50.0 | " | | U | | | 200 | |
| 1,2-Dichlorobenzene | U | | | 50.0 | " | | U | | | 200 | |
| 1,2,4-Trichlorobenzene | U | | | 50.0 | " | | U | | | 200 | |
| Propene | 238 | | | 50.0 | " | | 223 | | 6.39 | 200 | |
| 1,3-Butadiene | U | | | 50.0 | " | | U | | | 200 | |
| Benzyl chloride | U | | | 50.0 | " | | U | | | 200 | |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 75.4 | | | 50.0 | " | | 69.9 | | 7.58 | 200 | |
| 2-Propanol | U | J | | 50.0 | " | | U | | | 200 | |
| Acrolein | 219 | | | 50.0 | " | | 217 | | 1.16 | 200 | |
| Acetonitrile | 154 | | | 50.0 | " | | 152 | | 1.42 | 200 | |

Matt Kobus 6-20-12

Matt Kobus, Chemist

Report Name: E120601 FINAL Jun 20 12 0800

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Superfund, US EPA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Custom Cleaners
Project Number: [none]
Project Manager: Chi Tang

Reported:
Jun-20-12 08:00

Air Toxics by GC/MS - Quality Control
TechLaw - ESAT Contract

Batch EF20801 - Micro Purge and Trap

| Duplicate (EF20801-DUP1) | | Source: E120601-07 | | Prepared & Analyzed: Jun-07-12 | | | | | | | |
|--------------------------|--------|--------------------|-----|--------------------------------|-------|-------------|---------------|------|--------|------|-----------|
| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Spike Level | Source Result | %REC | Limits | RPD | RPD Limit |
| Methyl iodide | U | | | 50.0 | PPTV | | U | | | | 200 |
| Chlorodifluoromethane | 339 | | | 50.0 | " | | 330 | | | 2.59 | 200 |
| Methyl ethyl ketone | 231 | J | | 50.0 | " | | 219 | | | 5.33 | 200 |
| 1,2,3-Trimethylbenzene | U | | | 50.0 | " | | U | | | | 200 |
| Isobutene | 107 | | | 50.0 | " | | 96.9 | | | 9.49 | 200 |
| Propanal | 746 | J | | 50.0 | " | | 705 | | | 5.65 | 200 |
| Pentane | 365 | J | | 50.0 | " | | 341 | | | 6.69 | 200 |
| Isoprene | 497 | | | 50.0 | " | | 482 | | | 2.99 | 200 |
| 1-Propanol | 73.0 | | | 50.0 | " | | 71.1 | | | 2.75 | 200 |
| Cyclopentane | U | | | 50.0 | " | | U | | | | 200 |
| Methacrolein | 75.2 | | | 50.0 | " | | 68.1 | | | 9.81 | 200 |
| Methyl vinyl ketone | 164 | J | | 50.0 | " | | 154 | | | 6.53 | 200 |
| Butanal | 421 | J | | 50.0 | " | | 400 | | | 5.15 | 200 |
| 1-Butanol | U | | | 50.0 | " | | U | | | | 200 |
| 2-Pentanone | U | J | | 50.0 | " | | U | | | | 200 |
| Pentanal | 333 | J | | 50.0 | " | | 336 | | | 1.12 | 200 |
| 3-Pentanone | U | J | | 50.0 | " | | U | | | | 200 |
| 3-Hexanone | U | J | | 50.0 | " | | U | | | | 200 |

Batch EF20802 - Micro Purge and Trap

| Blank (EF20802-BLK1) | | Prepared & Analyzed: Jun-08-12 | | | | | | | | | |
|---------------------------|--------|--------------------------------|-----|-----------------|-------|-------------|---------------|------|--------|-----|-----------|
| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Spike Level | Source Result | %REC | Limits | RPD | RPD Limit |
| Dichlorodifluoromethane | U | | | 50.0 | PPTV | | | | | | |
| Dichlorotetrafluoroethane | U | | | 50.0 | " | | | | | | |
| Chloromethane | U | | | 50.0 | " | | | | | | |
| Vinyl chloride | U | J | | 50.0 | " | | | | | | |
| Bromomethane | U | | | 50.0 | " | | | | | | |
| Chloroethane | U | | | 50.0 | " | | | | | | |
| Trichlorofluoromethane | U | | | 50.0 | " | | | | | | |
| Acetone | U | J | | 50.0 | " | | | | | | |
| 1,1-Dichloroethene | U | | | 50.0 | " | | | | | | |

Matt Kobus

6-20-12

Matt Kobus, Chemist

Report Name: E120601 FINAL Jun 20 12 0800

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Superfund, US EPA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Custom Cleaners
Project Number: [none]
Project Manager: Chi Tang

Reported:
Jun-20-12 08:00

Air Toxics by GC/MS - Quality Control
TechLaw - ESAT Contract

Batch EF20802 - Micro Purge and Trap

Blank (EF20802-BLK1)

Prepared & Analyzed: Jun-08-12

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Spike Level | Source Result | %REC Limits | RPD | RPD Limit |
|---------------------------|--------|-----------------------|-----|--------------------|-------|----------------|------------------|----------------|-----|--------------|
| Methylene chloride | U | | | 50.0 | PPTV | | | | | |
| Carbon disulfide | 60.0 | J | | 50.0 | " | | | | | |
| Methyl tert-butyl ether | U | J | | 50.0 | " | | | | | |
| 1,1-Dichloroethane | U | | | 50.0 | " | | | | | |
| n-Hexane | U | J | | 50.0 | " | | | | | |
| cis-1,2-Dichloroethene | U | | | 50.0 | " | | | | | |
| Chloroform | U | | | 50.0 | " | | | | | |
| 1,1,1-Trichloroethane | U | | | 50.0 | " | | | | | |
| 1,2-Dichloroethane | U | | | 50.0 | " | | | | | |
| Cyclohexane | U | | | 50.0 | " | | | | | |
| Carbon Tetrachloride | U | | | 50.0 | " | | | | | |
| Benzene | U | | | 50.0 | " | | | | | |
| Trichloroethene | U | | | 50.0 | " | | | | | |
| 1,2-Dichloropropane | U | | | 50.0 | " | | | | | |
| Bromodichloromethane | U | | | 50.0 | " | | | | | |
| 1,4-Dioxane | U | J | | 50.0 | " | | | | | |
| cis-1,3-Dichloropropene | U | | | 50.0 | " | | | | | |
| 4-Methyl-2-pentanone | U | J | | 50.0 | " | | | | | |
| 2-Hexanone | U | J | | 50.0 | " | | | | | |
| trans-1,3-Dichloropropene | U | | | 50.0 | " | | | | | |
| Toluene | U | | | 50.0 | " | | | | | |
| 1,1,2-Trichloroethane | U | | | 50.0 | " | | | | | |
| Tetrachloroethene | U | | | 50.0 | " | | | | | |
| 1,2-Dibromoethane (EDB) | U | | | 50.0 | " | | | | | |
| Chlorobenzene | U | | | 50.0 | " | | | | | |
| Ethylbenzene | U | | | 50.0 | " | | | | | |
| m,p-Xylene | U | | | 50.0 | " | | | | | |
| o-Xylene | U | | | 50.0 | " | | | | | |
| Styrene | U | J | | 50.0 | " | | | | | |
| Bromoform | U | | | 50.0 | " | | | | | |
| 1,1,2,2-Tetrachloroethane | U | | | 50.0 | " | | | | | |
| 1,3,5-Trimethylbenzene | U | | | 50.0 | " | | | | | |

Matt Kobus 6-20-12
Matt Kobus, Chemist

Report Name: E120601 FINAL Jun 20 12 0800

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Superfund, US EPA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Custom Cleaners
Project Number: [none]
Project Manager: Chi Tang

Reported:
Jun-20-12 08:00

Air Toxics by GC/MS - Quality Control
TechLaw - ESAT Contract

Batch EF20802 - Micro Purge and Trap

Blank (EF20802-BLK1)

Prepared & Analyzed: Jun-08-12

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Spike Level | Source Result | %REC Limits | RPD | RPD Limit |
|---------------------------------------|--------|-----------------------|-----|--------------------|-------|----------------|------------------|----------------|-----|--------------|
| 1,2,4-Trimethylbenzene | U | | | 50.0 | PPTV | | | | | |
| 1,3-Dichlorobenzene | U | | | 50.0 | " | | | | | |
| 1,4-Dichlorobenzene | U | | | 50.0 | " | | | | | |
| 1,2-Dichlorobenzene | U | | | 50.0 | " | | | | | |
| 1,2,4-Trichlorobenzene | U | | | 50.0 | " | | | | | |
| Propene | U | | | 50.0 | " | | | | | |
| 1,3-Butadiene | U | | | 50.0 | " | | | | | |
| Benzyl chloride | U | | | 50.0 | " | | | | | |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | U | | | 50.0 | " | | | | | |
| 2-Propanol | U | J | | 50.0 | " | | | | | |
| Acrolein | U | | | 50.0 | " | | | | | |
| Acetonitrile | U | | | 50.0 | " | | | | | |
| Methyl iodide | U | | | 50.0 | " | | | | | |
| Chlorodifluoromethane | U | | | 50.0 | " | | | | | |
| Methyl ethyl ketone | U | J | | 50.0 | " | | | | | |
| 1,2,3-Trimethylbenzene | U | | | 50.0 | " | | | | | |
| Isobutene | U | | | 50.0 | " | | | | | |
| Propanal | U | J | | 50.0 | " | | | | | |
| Pentane | U | J | | 50.0 | " | | | | | |
| Isoprene | U | | | 50.0 | " | | | | | |
| 1-Propanol | U | | | 50.0 | " | | | | | |
| Cyclopentane | U | | | 50.0 | " | | | | | |
| Methacrolein | U | | | 50.0 | " | | | | | |
| Methyl vinyl ketone | U | J | | 50.0 | " | | | | | |
| Butanal | U | J | | 50.0 | " | | | | | |
| 1-Butanol | U | | | 50.0 | " | | | | | |
| 2-Pentanone | U | J | | 50.0 | " | | | | | |
| Pentanal | U | J | | 50.0 | " | | | | | |
| 3-Pentanone | U | J | | 50.0 | " | | | | | |
| 3-Hexanone | U | J | | 50.0 | " | | | | | |

Superfund, US EPA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Custom Cleaners
Project Number: [none]
Project Manager: Chi Tang

Reported:
Jun-20-12 08:00

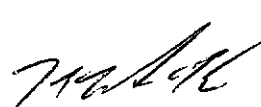
Air Toxics by GC/MS - Quality Control
TechLaw - ESAT Contract

Batch EF20802 - Micro Purge and Trap

LCS (EF20802-BS1)

Prepared & Analyzed: Jun-08-12

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit |
|---------------------------|--------|-----------------------|-----|--------------------|-------|----------------|------------------|------|----------------|-----|--------------|
| Dichlorodifluoromethane | 512 | | | 50.0 | PPTV | 540 | | 94.9 | 80-120 | | |
| Dichlorotetrafluoroethane | 527 | | | 50.0 | " | 536 | | 98.3 | 80-120 | | |
| Chloromethane | 551 | | | 50.0 | " | 540 | | 102 | 70-130 | | |
| Vinyl chloride | 575 | J | | 50.0 | " | 540 | | 106 | 80-120 | | |
| Bromomethane | 519 | | | 50.0 | " | 530 | | 97.9 | 80-120 | | |
| Chloroethane | 504 | | | 50.0 | " | 522 | | 96.5 | 80-120 | | |
| Trichlorofluoromethane | 511 | | | 50.0 | " | 532 | | 96.1 | 80-120 | | |
| Acetone | 518 | J | | 50.0 | " | 555 | | 93.4 | 50-150 | | |
| 1,1-Dichloroethene | 520 | | | 50.0 | " | 530 | | 98.0 | 70-130 | | |
| Methylene chloride | 527 | | | 50.0 | " | 536 | | 98.2 | 70-130 | | |
| Carbon disulfide | 596 | J | | 50.0 | " | 542 | | 110 | 50-150 | | |
| Methyl tert-butyl ether | 545 | J | | 50.0 | " | 541 | | 101 | 70-130 | | |
| 1,1-Dichloroethane | 525 | | | 50.0 | " | 534 | | 98.3 | 70-130 | | |
| n-Hexane | 520 | J | | 50.0 | " | 530 | | 98.0 | 70-130 | | |
| cis-1,2-Dichloroethene | 533 | | | 50.0 | " | 540 | | 98.8 | 70-130 | | |
| Chloroform | 512 | | | 50.0 | " | 525 | | 97.5 | 80-120 | | |
| 1,1,1-Trichloroethane | 513 | | | 50.0 | " | 523 | | 98.1 | 80-120 | | |
| 1,2-Dichloroethane | 510 | | | 50.0 | " | 528 | | 96.6 | 80-120 | | |
| Cyclohexane | 526 | | | 50.0 | " | 528 | | 99.7 | 70-130 | | |
| Carbon Tetrachloride | 529 | | | 50.0 | " | 541 | | 97.7 | 80-120 | | |
| Benzene | 527 | | | 50.0 | " | 547 | | 96.3 | 80-120 | | |
| Trichloroethene | 522 | | | 50.0 | " | 526 | | 99.2 | 80-120 | | |
| 1,2-Dichloropropane | 527 | | | 50.0 | " | 534 | | 98.7 | 80-120 | | |
| Bromodichloromethane | 525 | | | 50.0 | " | 532 | | 98.7 | 80-120 | | |
| 1,4-Dioxane | 468 | J | | 50.0 | " | 526 | | 88.9 | 80-120 | | |
| cis-1,3-Dichloropropene | 541 | | | 50.0 | " | 540 | | 100 | 80-120 | | |
| 4-Methyl-2-pentanone | 534 | J | | 50.0 | " | 535 | | 99.8 | 70-130 | | |
| 2-Hexanone | 524 | J | | 50.0 | " | 529 | | 99.1 | 70-130 | | |
| trans-1,3-Dichloropropene | 541 | | | 50.0 | " | 538 | | 101 | 80-120 | | |
| Toluene | 452 | | | 50.0 | " | 536 | | 84.3 | 80-120 | | |
| 1,1,2-Trichloroethane | 522 | | | 50.0 | " | 526 | | 99.2 | 80-120 | | |
| Tetrachloroethene | 534 | | | 50.0 | " | 526 | | 101 | 80-120 | | |


Matt Kobus, Chemist

Report Name: E120601 FINAL Jun 20 12 0800

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Superfund, US EPA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Custom Cleaners
Project Number: [none]
Project Manager: Chi Tang

Reported:
Jun-20-12 08:00

Air Toxics by GC/MS - Quality Control
TechLaw - ESAT Contract

Batch EF20802 - Micro Purge and Trap

LCS (EF20802-BS1)

Prepared & Analyzed: Jun-08-12

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit |
|---------------------------------------|--------|-----------------------|-----|--------------------|-------|----------------|------------------|------|----------------|-----|--------------|
| 1,2-Dibromoethane (EDB) | 525 | | | 50.0 | PPTV | 530 | | 99.0 | 80-120 | | |
| Chlorobenzene | 522 | | | 50.0 | " | 529 | | 98.6 | 80-120 | | |
| Ethylbenzene | 537 | | | 50.0 | " | 532 | | 101 | 80-120 | | |
| m,p-Xylene | 1060 | | | 50.0 | " | 1060 | | 99.8 | 80-120 | | |
| o-Xylene | 509 | | | 50.0 | " | 528 | | 96.4 | 80-120 | | |
| Styrene | 502 | J | | 50.0 | " | 555 | | 90.5 | 80-120 | | |
| Bromoform | 571 | | | 50.0 | " | 551 | | 104 | 80-120 | | |
| 1,1,2,2-Tetrachloroethane | 497 | | | 50.0 | " | 516 | | 96.3 | 80-120 | | |
| 1,3,5-Trimethylbenzene | 517 | | | 50.0 | " | 527 | | 98.1 | 70-130 | | |
| 1,2,4-Trimethylbenzene | 516 | | | 50.0 | " | 530 | | 97.3 | 70-130 | | |
| 1,3-Dichlorobenzene | 496 | | | 50.0 | " | 514 | | 96.5 | 80-120 | | |
| 1,4-Dichlorobenzene | 507 | | | 50.0 | " | 521 | | 97.3 | 80-120 | | |
| 1,2-Dichlorobenzene | 497 | | | 50.0 | " | 521 | | 95.4 | 80-120 | | |
| 1,2,4-Trichlorobenzene | 498 | | | 50.0 | " | 523 | | 95.2 | 50-150 | | |
| Propene | 487 | | | 50.0 | " | 520 | | 93.6 | 70-130 | | |
| 1,3-Butadiene | 558 | | | 50.0 | " | 511 | | 109 | 80-120 | | |
| Benzyl chloride | 534 | | | 50.0 | " | 531 | | 101 | 70-130 | | |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 522 | | | 50.0 | " | 533 | | 97.9 | 80-120 | | |
| 2-Propanol | 532 | J | | 50.0 | " | 536 | | 99.2 | 80-120 | | |
| Acrolein | 499 | | | 50.0 | " | 549 | | 91.0 | 80-120 | | |
| Acetonitrile | 505 | | | 50.0 | " | 546 | | 92.5 | 70-130 | | |
| Methyl iodide | 522 | | | 50.0 | " | 524 | | 99.7 | 80-120 | | |
| Chlorodifluoromethane | 505 | | | 50.0 | " | 534 | | 94.6 | 80-120 | | |
| Methyl ethyl ketone | 503 | J | | 50.0 | " | 546 | | 92.0 | 80-120 | | |
| 1,2,3-Trimethylbenzene | 506 | | | 50.0 | " | 533 | | 95.0 | 80-120 | | |
| Isobutene | 589 | | | 50.0 | " | 513 | | 115 | 70-130 | | |
| Propanal | 528 | J | | 50.0 | " | 542 | | 97.4 | 80-120 | | |
| Pentane | 543 | J | | 50.0 | " | 552 | | 98.4 | 80-120 | | |
| Isoprene | 559 | | | 50.0 | " | 570 | | 98.1 | 70-130 | | |
| 1-Propanol | 537 | | | 50.0 | " | 545 | | 98.4 | 50-150 | | |
| Cyclopentane | 537 | | | 50.0 | " | 541 | | 99.3 | 70-130 | | |
| Methacrolein | 545 | | | 50.0 | " | 552 | | 98.8 | 70-130 | | |

Matt Kobus, Chemist

Report Name: E120601 FINAL Jun 20 12 0800

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Superfund, US EPA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Custom Cleaners
Project Number: [none]
Project Manager: Chi Tang

Reported:
Jun-20-12 08:00

Air Toxics by GC/MS - Quality Control
TechLaw - ESAT Contract

Batch EF20802 - Micro Purge and Trap

LCS (EF20802-BS1)

Prepared & Analyzed: Jun-08-12

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit |
|---------------------|--------|-----------------------|-----|--------------------|-------|----------------|------------------|------|----------------|-----|--------------|
| Methyl vinyl ketone | 533 | J | | 50.0 | PPTV | 548 | | 97.2 | 70-130 | | |
| Butanal | 529 | J | | 50.0 | " | 543 | | 97.5 | 80-120 | | |
| 1-Butanol | 524 | | | 50.0 | " | 526 | | 99.6 | 50-150 | | |
| 2-Pentanone | 540 | J | | 50.0 | " | 541 | | 99.9 | 70-130 | | |
| Pentanal | 522 | J | | 50.0 | " | 537 | | 97.2 | 70-130 | | |
| 3-Pentanone | 531 | J | | 50.0 | " | 531 | | 100 | 80-120 | | |
| 3-Hexanone | 531 | J | | 50.0 | " | 531 | | 99.9 | 80-120 | | |

LCS Dup (EF20802-BSD1)

Prepared & Analyzed: Jun-08-12

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit |
|---------------------------|--------|-----------------------|-----|--------------------|-------|----------------|------------------|------|----------------|--------|--------------|
| Dichlorodifluoromethane | 504 | | | 50.0 | PPTV | 540 | | 93.4 | 80-120 | 1.55 | 30 |
| Dichlorotetrafluoroethane | 528 | | | 50.0 | " | 536 | | 98.4 | 80-120 | 0.152 | 30 |
| Chloromethane | 551 | | | 50.0 | " | 540 | | 102 | 70-130 | 0.0490 | 30 |
| Vinyl chloride | 576 | J | | 50.0 | " | 540 | | 107 | 80-120 | 0.183 | 30 |
| Bromomethane | 518 | | | 50.0 | " | 530 | | 97.8 | 80-120 | 0.0521 | 30 |
| Chloroethane | 515 | | | 50.0 | " | 522 | | 98.7 | 80-120 | 2.23 | 30 |
| Trichlorofluoromethane | 507 | | | 50.0 | " | 532 | | 95.2 | 80-120 | 0.886 | 30 |
| Acetone | 499 | J | | 50.0 | " | 555 | | 89.9 | 50-150 | 3.77 | 30 |
| 1,1-Dichloroethene | 522 | | | 50.0 | " | 530 | | 98.6 | 70-130 | 0.545 | 30 |
| Methylene chloride | 522 | | | 50.0 | " | 536 | | 97.5 | 70-130 | 0.799 | 30 |
| Carbon disulfide | 543 | J | | 50.0 | " | 542 | | 100 | 50-150 | 9.29 | 30 |
| Methyl tert-butyl ether | 547 | J | | 50.0 | " | 541 | | 101 | 70-130 | 0.383 | 30 |
| 1,1-Dichloroethane | 530 | | | 50.0 | " | 534 | | 99.3 | 70-130 | 0.948 | 30 |
| n-Hexane | 534 | J | | 50.0 | " | 530 | | 101 | 70-130 | 2.78 | 30 |
| cis-1,2-Dichloroethene | 542 | | | 50.0 | " | 540 | | 100 | 70-130 | 1.54 | 30 |
| Chloroform | 516 | | | 50.0 | " | 525 | | 98.3 | 80-120 | 0.907 | 30 |
| 1,1,1-Trichloroethane | 511 | | | 50.0 | " | 523 | | 97.8 | 80-120 | 0.314 | 30 |
| 1,2-Dichloroethane | 514 | | | 50.0 | " | 528 | | 97.4 | 80-120 | 0.789 | 30 |
| Cyclohexane | 531 | | | 50.0 | " | 528 | | 101 | 70-130 | 0.966 | 30 |
| Carbon Tetrachloride | 526 | | | 50.0 | " | 541 | | 97.2 | 80-120 | 0.533 | 30 |
| Benzene | 524 | | | 50.0 | " | 547 | | 95.8 | 80-120 | 0.483 | 30 |

Matt Kobus 6-20-12

Matt Kobus, Chemist

Report Name: E120601 FINAL Jun 20 12 0800

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Superfund, US EPA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Custom Cleaners
Project Number: [none]
Project Manager: Chi Tang

Reported:
Jun-20-12 08:00

Air Toxics by GC/MS - Quality Control
TechLaw - ESAT Contract

Batch EF20802 - Micro Purge and Trap

LCS Dup (EF20802-BSD1)

Prepared & Analyzed: Jun-08-12

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Spike Level | Source Result | %REC Limits | RPD | RPD Limit |
|---------------------------------------|--------|-----------------------|-----|--------------------|-------|----------------|------------------|----------------|--------|--------------|
| Trichloroethene | 523 | | | 50.0 | PPTV | 526 | 99.5 | 80-120 | 0.293 | 30 |
| 1,2-Dichloropropane | 525 | | | 50.0 | " | 534 | 98.3 | 80-120 | 0.428 | 30 |
| Bromodichloromethane | 520 | | | 50.0 | " | 532 | 97.7 | 80-120 | 0.973 | 30 |
| 1,4-Dioxane | 484 | J | | 50.0 | " | 526 | 92.0 | 80-120 | 3.42 | 30 |
| cis-1,3-Dichloropropene | 548 | | | 50.0 | " | 540 | 101 | 80-120 | 1.23 | 30 |
| 4-Methyl-2-pentanone | 528 | J | | 50.0 | " | 535 | 98.7 | 70-130 | 1.15 | 30 |
| 2-Hexanone | 513 | J | | 50.0 | " | 529 | 97.0 | 70-130 | 2.15 | 30 |
| trans-1,3-Dichloropropene | 541 | | | 50.0 | " | 538 | 101 | 80-120 | 0.0148 | 30 |
| Toluene | 451 | | | 50.0 | " | 536 | 84.1 | 80-120 | 0.348 | 30 |
| 1,1,2-Trichloroethane | 526 | | | 50.0 | " | 526 | 99.9 | 80-120 | 0.745 | 30 |
| Tetrachloroethene | 543 | | | 50.0 | " | 526 | 103 | 80-120 | 1.74 | 30 |
| 1,2-Dibromoethane (EDB) | 526 | | | 50.0 | " | 530 | 99.2 | 80-120 | 0.198 | 30 |
| Chlorobenzene | 525 | | | 50.0 | " | 529 | 99.2 | 80-120 | 0.568 | 30 |
| Ethylbenzene | 530 | | | 50.0 | " | 532 | 99.6 | 80-120 | 1.35 | 30 |
| m,p-Xylene | 1050 | | | 50.0 | " | 1060 | 99.1 | 80-120 | 0.732 | 30 |
| o-Xylene | 503 | | | 50.0 | " | 528 | 95.3 | 80-120 | 1.15 | 30 |
| Styrene | 494 | J | | 50.0 | " | 555 | 89.1 | 80-120 | 1.53 | 30 |
| Bromoform | 552 | | | 50.0 | " | 551 | 100 | 80-120 | 3.34 | 30 |
| 1,1,2,2-Tetrachloroethane | 493 | | | 50.0 | " | 516 | 95.6 | 80-120 | 0.741 | 30 |
| 1,3,5-Trimethylbenzene | 514 | | | 50.0 | " | 527 | 97.5 | 70-130 | 0.623 | 30 |
| 1,2,4-Trimethylbenzene | 519 | | | 50.0 | " | 530 | 97.9 | 70-130 | 0.657 | 30 |
| 1,3-Dichlorobenzene | 489 | | | 50.0 | " | 514 | 95.2 | 80-120 | 1.29 | 30 |
| 1,4-Dichlorobenzene | 505 | | | 50.0 | " | 521 | 97.0 | 80-120 | 0.300 | 30 |
| 1,2-Dichlorobenzene | 497 | | | 50.0 | " | 521 | 95.3 | 80-120 | 0.0684 | 30 |
| 1,2,4-Trichlorobenzene | 504 | | | 50.0 | " | 523 | 96.3 | 50-150 | 1.16 | 30 |
| Propene | 487 | | | 50.0 | " | 520 | 93.6 | 70-130 | 0.0760 | 30 |
| 1,3-Butadiene | 560 | | | 50.0 | " | 511 | 109 | 80-120 | 0.301 | 30 |
| Benzyl chloride | 534 | | | 50.0 | " | 531 | 101 | 70-130 | 0.120 | 30 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 519 | | | 50.0 | " | 533 | 97.4 | 80-120 | 0.561 | 30 |
| 2-Propanol | 540 | J | | 50.0 | " | 536 | 101 | 80-120 | 1.59 | 30 |
| Acrolein | 535 | | | 50.0 | " | 549 | 97.4 | 80-120 | 6.83 | 30 |
| Acetonitrile | 509 | | | 50.0 | " | 546 | 93.3 | 70-130 | 0.848 | 30 |

[Signature] 6-20-12

Matt Kobus, Chemist

Report Name: E120601 FINAL Jun 20 12 0800

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Superfund, US EPA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Custom Cleaners
Project Number: [none]
Project Manager: Chi Tang

Reported:
Jun-20-12 08:00

Air Toxics by GC/MS - Quality Control
TechLaw - ESAT Contract

Batch EF20802 - Micro Purge and Trap

LCS Dup (EF20802-BSD1)

Prepared & Analyzed: Jun-08-12


| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit |
|------------------------|--------|-----------------------|-----|--------------------|-------|----------------|------------------|------|----------------|--------|--------------|
| Methyl iodide | 518 | | | 50.0 | PPTV | 524 | | 98.9 | 80-120 | 0.771 | 30 |
| Chlorodifluoromethane | 508 | | | 50.0 | " | 534 | | 95.2 | 80-120 | 0.661 | 30 |
| Methyl ethyl ketone | 488 | J | | 50.0 | " | 546 | | 89.4 | 80-120 | 2.90 | 30 |
| 1,2,3-Trimethylbenzene | 510 | | | 50.0 | " | 533 | | 95.7 | 80-120 | 0.775 | 30 |
| Isobutene | 607 | | | 50.0 | " | 513 | | 118 | 70-130 | 3.04 | 30 |
| Propanal | 528 | J | | 50.0 | " | 542 | | 97.5 | 80-120 | 0.121 | 30 |
| Pentane | 539 | J | | 50.0 | " | 552 | | 97.7 | 80-120 | 0.730 | 30 |
| Isoprene | 559 | | | 50.0 | " | 570 | | 98.1 | 70-130 | 0.0233 | 30 |
| 1-Propanol | 543 | | | 50.0 | " | 545 | | 99.6 | 50-150 | 1.13 | 30 |
| Cyclopentane | 547 | | | 50.0 | " | 541 | | 101 | 70-130 | 1.83 | 30 |
| Methacrolein | 548 | | | 50.0 | " | 552 | | 99.3 | 70-130 | 0.563 | 30 |
| Methyl vinyl ketone | 548 | J | | 50.0 | " | 548 | | 100 | 70-130 | 2.83 | 30 |
| Butanal | 536 | J | | 50.0 | " | 543 | | 98.6 | 80-120 | 1.21 | 30 |
| 1-Butanol | 529 | | | 50.0 | " | 526 | | 101 | 50-150 | 1.02 | 30 |
| 2-Pentanone | 550 | J | | 50.0 | " | 541 | | 102 | 70-130 | 1.74 | 30 |
| Pentanal | 518 | J | | 50.0 | " | 537 | | 96.4 | 70-130 | 0.831 | 30 |
| 3-Pentanone | 538 | J | | 50.0 | " | 531 | | 101 | 80-120 | 1.38 | 30 |
| 3-Hexanone | 552 | J | | 50.0 | " | 531 | | 104 | 80-120 | 4.02 | 30 |

Duplicate (EF20802-DUP1)

Source: E120601-11

Prepared & Analyzed: Jun-08-12

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit |
|---------------------------|--------|-----------------------|-----|--------------------|-------|----------------|------------------|------|----------------|-------|--------------|
| Dichlorodifluoromethane | 509 | | | 250 | PPTV | | 511 | | | 0.314 | 200 |
| Dichlorotetrafluoroethane | U | | | 250 | " | | U | | | | 200 |
| Chloromethane | U | | | 250 | " | | U | | | | 200 |
| Vinyl chloride | U | J | | 250 | " | | U | | | | 200 |
| Bromomethane | U | | | 250 | " | | U | | | | 200 |
| Chloroethane | U | | | 250 | " | | U | | | | 200 |
| Trichlorofluoromethane | 272 | | | 250 | " | | 269 | | | 0.980 | 200 |
| Acetone | 3480 | J | | 250 | " | | 3920 | | | 12.0 | 200 |
| 1,1-Dichloroethene | U | | | 250 | " | | U | | | | 200 |
| Methylene chloride | U | | | 250 | " | | U | | | | 200 |


Matt Kobus, Chemist

Report Name: E120601 FINAL Jun 20 12 0800

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Superfund, US EPA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Custom Cleaners
Project Number: [none]
Project Manager: Chi Tang

Reported:
Jun-20-12 08:00

Air Toxics by GC/MS - Quality Control
TechLaw - ESAT Contract

Batch EF20802 - Micro Purge and Trap

| Duplicate (EF20802-DUP1) | | Source: E120601-11 | | Prepared & Analyzed: Jun-08-12 | | | | | | | |
|---------------------------|--------|--------------------|-----|--------------------------------|-------|-------------|---------------|------|-------------|-------|-----------|
| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit |
| Carbon disulfide | U | J | | 250 | PPTV | | U | | | | 200 |
| Methyl tert-butyl ether | U | J | | 250 | " | | U | | | | 200 |
| 1,1-Dichloroethane | U | | | 250 | " | | U | | | | 200 |
| n-Hexane | 282 | J | | 250 | " | | 302 | | | 6.89 | 200 |
| cis-1,2-Dichloroethene | U | | | 250 | " | | U | | | | 200 |
| Chloroform | U | | | 250 | " | | U | | | | 200 |
| 1,1,1-Trichloroethane | U | | | 250 | " | | U | | | | 200 |
| 1,2-Dichloroethane | U | | | 250 | " | | U | | | | 200 |
| Cyclohexane | U | | | 250 | " | | U | | | | 200 |
| Carbon Tetrachloride | U | | | 250 | " | | U | | | | 200 |
| Benzene | 294 | | | 250 | " | | 288 | | | 2.12 | 200 |
| Trichloroethene | U | | | 250 | " | | U | | | | 200 |
| 1,2-Dichloropropane | U | | | 250 | " | | U | | | | 200 |
| Bromodichloromethane | U | | | 250 | " | | U | | | | 200 |
| 1,4-Dioxane | U | J | | 250 | " | | U | | | | 200 |
| cis-1,3-Dichloropropene | U | | | 250 | " | | U | | | | 200 |
| 4-Methyl-2-pentanone | U | J | | 250 | " | | U | | | | 200 |
| 2-Hexanone | U | J | | 250 | " | | U | | | | 200 |
| trans-1,3-Dichloropropene | U | | | 250 | " | | U | | | | 200 |
| Toluene | 1500 | | | 250 | " | | 1500 | | | 0.277 | 200 |
| 1,1,2-Trichloroethane | U | | | 250 | " | | U | | | | 200 |
| Tetrachloroethene | 37600 | | | 250 | " | | 79200 | | | 71.1 | 200 |
| 1,2-Dibromoethane (EDB) | U | | | 250 | " | | U | | | | 200 |
| Chlorobenzene | U | | | 250 | " | | U | | | | 200 |
| Ethylbenzene | 692 | | | 250 | " | | 697 | | | 0.713 | 200 |
| m,p-Xylene | 2640 | | | 250 | " | | 2700 | | | 2.28 | 200 |
| o-Xylene | 1040 | | | 250 | " | | 1040 | | | 0.505 | 200 |
| Styrene | U | J | | 250 | " | | U | | | | 200 |
| Bromoform | U | | | 250 | " | | U | | | | 200 |
| 1,1,2,2-Tetrachloroethane | U | | | 250 | " | | U | | | | 200 |
| 1,3,5-Trimethylbenzene | 386 | | | 250 | " | | 383 | | | 0.624 | 200 |
| 1,2,4-Trimethylbenzene | 1920 | | | 250 | " | | 1930 | | | 0.452 | 200 |

Matt Kobus 6-20-12

Matt Kobus, Chemist

Report Name: E120601 FINAL Jun 20 12 0800

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Superfund, US EPA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Custom Cleaners
Project Number: [none]
Project Manager: Chi Tang

Reported:
Jun-20-12 08:00

Air Toxics by GC/MS - Quality Control
TechLaw - ESAT Contract

Batch EF20802 - Micro Purge and Trap

| Duplicate (EF20802-DUP1) | | Source: E120601-11 | | Prepared & Analyzed: Jun-08-12 | | | | | | | |
|---------------------------------------|--------|-----------------------|-----|--------------------------------|-------|----------------|------------------|------|--------|------|--------------|
| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Spike Level | Source Result | %REC | Limits | RPD | RPD Limit |
| 1,3-Dichlorobenzene | U | | | 250 | PPTV | | U | | | | 200 |
| 1,4-Dichlorobenzene | U | | | 250 | " | | U | | | | 200 |
| 1,2-Dichlorobenzene | U | | | 250 | " | | U | | | | 200 |
| 1,2,4-Trichlorobenzene | U | | | 250 | " | | U | | | | 200 |
| Propene | 6640 | | | 250 | " | | 6900 | | | 3.90 | 200 |
| 1,3-Butadiene | U | | | 250 | " | | U | | | | 200 |
| Benzyl chloride | U | | | 250 | " | | U | | | | 200 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | U | | | 250 | " | | U | | | | 200 |
| 2-Propanol | U | J | | 250 | " | | U | | | | 200 |
| Acrolein | U | | | 250 | " | | U | | | | 200 |
| Acetonitrile | U | | | 250 | " | | U | | | | 200 |
| Methyl iodide | U | | | 250 | " | | U | | | | 200 |
| Chlorodifluoromethane | 1650 | | | 250 | " | | 1670 | | | 1.13 | 200 |
| Methyl ethyl ketone | 438 | J | | 250 | " | | 500 | | | 13.1 | 200 |
| 1,2,3-Trimethylbenzene | 476 | | | 250 | " | | 483 | | | 1.57 | 200 |
| Isobutene | U | | | 250 | " | | U | | | | 200 |
| Propanal | 510 | J | | 250 | " | | 470 | | | 8.25 | 200 |
| Pentane | 768 | J | | 250 | " | | 780 | | | 1.59 | 200 |
| Isoprene | U | | | 250 | " | | U | | | | 200 |
| 1-Propanol | U | | | 250 | " | | U | | | | 200 |
| Cyclopentane | U | | | 250 | " | | U | | | | 200 |
| Methacrolein | U | | | 250 | " | | U | | | | 200 |
| Methyl vinyl ketone | U | J | | 250 | " | | U | | | | 200 |
| Butanal | 304 | J | | 250 | " | | 308 | | | 1.34 | 200 |
| 1-Butanol | U | | | 250 | " | | U | | | | 200 |
| 2-Pentanone | U | J | | 250 | " | | U | | | | 200 |
| Pentanal | 268 | J | | 250 | " | | 343 | | | 24.6 | 200 |
| 3-Pentanone | U | J | | 250 | " | | U | | | | 200 |
| 3-Hexanone | U | J | | 250 | " | | U | | | | 200 |

Superfund, US EPA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Custom Cleaners
Project Number: [none]
Project Manager: Chi Tang

Reported:
Jun-20-12 08:00

Air Toxics by GC/MS - Quality Control
TechLaw - ESAT Contract

Batch EF21401 - Micro Purge and Trap

Blank (EF21401-BLK1)

Prepared: Jun-06-12 Analyzed: Jun-14-12

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Spike Level | Source Result | %REC | RPD | RPD Limit |
|---------|--------|-----------------------|-----|--------------------|-------|----------------|------------------|------|-----|--------------|
| Propene | U | | | 50.0 | PPTV | | | | | |

LCS (EF21401-BS1)

Prepared: Jun-06-12 Analyzed: Jun-14-12

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Spike Level | Source Result | %REC | RPD | RPD Limit |
|---------|--------|-----------------------|-----|--------------------|-------|----------------|------------------|------|--------|--------------|
| Propene | 510 | | | 50.0 | PPTV | 520 | | 98.0 | 70-130 | |

LCS Dup (EF21401-BSD1)

Prepared: Jun-06-12 Analyzed: Jun-14-12

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Spike Level | Source Result | %REC | RPD | RPD Limit |
|---------|--------|-----------------------|-----|--------------------|-------|----------------|------------------|------|--------|--------------|
| Propene | 488 | | | 50.0 | PPTV | 520 | | 93.8 | 70-130 | 4.38 30 |

Matt Kobus 6-20-12

Matt Kobus, Chemist

Report Name: E120601 FINAL Jun 20 12 0800

Page 54 of 55
000058



TechLaw Inc ESAT Region 5
536 South Clark Street, Suite 734
Chicago, IL 60605
(312) 353-2964
(312) 353-8307 (Fax)
www.techlawinc.com

Superfund, US EPA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Custom Cleaners
Project Number: [none]
Project Manager: Chi Tang

Reported:
Jun-20-12 08:00

Notes and Definitions

J The identification of the analyte is acceptable; the reported value is an estimate.
U Not Detected
NR Not Reported

Matt Kobus 6-20-12
Matt Kobus, Chemist

Report Name: E120601 FINAL Jun 20 12 0800

Page 55 of 55

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Items for Project Manager Review

| LabNumber | Analysis | Analyte | Exception |
|--------------|--------------|------------------|-------------------------------------|
| EF20802-BLK1 | Air Toxics R | Carbon disulfide | Blank >1 x MRL |
| EF20601-BLK1 | Air Toxics R | Carbon disulfide | Blank >1 x MRL |
| EF20601-BSD1 | Air Toxics R | Carbon disulfide | Exceeds RPD control limit |
| EF20601-BSD1 | Air Toxics R | 2-Propanol | Exceeds upper control limit |
| | Air Toxics R | (Air) | Special Units: (PPTV) |
| | Air Toxics R | (Air) | RPD calculations based on %Recovery |
| | | | VERSION 6.09:2007 |
| | | | Default Report (not modified) |

000060

Sample, Log and Extraction Comments

E120601-01
Air Toxics R

canister 0106 regulator #3485
start: -29 end: 0
start: -29 end: 0

E120601-01RE1
Air Toxics R

canister 0106 regulator #3485
start: -29 end: 0
start: -29 end: 0

E120601-02
Air Toxics R

canister 0113 regulator #1703
start: -32 end: -4.5
start: -32 end: -4.5

E120601-02RE1
Air Toxics R

canister 0113 regulator #1703
start: -32 end: -4.5
start: -32 end: -4.5

E120601-02RE2
Air Toxics R

canister 0113 regulator #1703
start: -32 end: -4.5
start: -32 end: -4.5

E120601-03
Air Toxics R

canister 0114 regulator #1684
start: -30 end: -1
start: -30 end: -1

E120601-03RE1
Air Toxics R

canister 0114 regulator #1684
start: -30 end: -1
start: -30 end: -1

E120601-04
Air Toxics R

canister 0130 regulator #1705
start: -29 end: -0.2
start: -29 end: -0.2

E120601-05
Air Toxics R

canister 0509 regulator #3489
start: -29 end: -0.1
start: -29 end: -0.1

E120601-05RE1
Air Toxics R

canister 0509 regulator #3489
start: -29 end: -0.1
start: -29 end: -0.1

E120601-05RE2
Air Toxics R

canister 0509 regulator #3489
start: -29 end: -0.1
start: -29 end: -0.1

E120601-06

000061

| | |
|---|---|
| Air Toxics R | canister 0638 regulator #1707 start: -30 end: -0.1 start: -30 end: -0.1 |
| E120601-06RE1 Air Toxics R | canister 0638 regulator #1707 start: -30 end: -0.1 start: -30 end: -0.1 |
| E120601-07 Air Toxics R | canister 0103 regulator #3478 start: -28 end: -5.5 start: -28 end: -5.5 |
| E120601-07RE1 Air Toxics R | canister 0103 regulator #3478 start: -28 end: -5.5 start: -28 end: -5.5 |
| E120601-07RE2 Air Toxics R | canister 0103 regulator #3478 start: -28 end: -5.5 start: -28 end: -5.5 |
| E120601-08 Air Toxics R | canister 0104 regulator #2316 start: -28 end: 0 start: -28 end: 0 |
| E120601-08RE1 Air Toxics R | canister 0104 regulator #2316 start: -28 end: 0 start: -28 end: 0 |
| E120601-08RE2 Air Toxics R | canister 0104 regulator #2316 start: -28 end: 0 start: -28 end: 0 |
| E120601-09 Air Toxics R | canister 0145 regulator #1702 start: -30 end: -2 start: -30 end: -2 |
| E120601-09RE1 Air Toxics R | canister 0145 regulator #1702 start: -30 end: -2 start: -30 end: -2 |
| E120601-09RE2 Air Toxics R | canister 0145 regulator #1702 start: -30 end: -2 start: -30 end: -2 |
| E120601-10 Air Toxics R | canister 0631 regulator #1706 start: -29 end: -0.1 |

start: -29 end: -0.1

E120601-10RE1
Air Toxics R

canister 0631 regulator #1706
start: -29 end: -0.1
start: -29 end: -0.1

E120601-10RE2
Air Toxics R

canister 0631 regulator #1706
start: -29 end: -0.1
start: -29 end: -0.1

E120601-11
Air Toxics R

canister 0635 regulator #1697
start: -30 end: -3.5
start: -30 end: -3.5

E120601-11RE1
Air Toxics R

canister 0635 regulator #1697
start: -30 end: -3.5
start: -30 end: -3.5

E120601-11RE2
Air Toxics R

canister 0635 regulator #1697
start: -30 end: -3.5
start: -30 end: -3.5

Appendix G

Analytical Results – Passive Soil Vapor



GORE® Surveys

FOR ENVIRONMENTAL

Mapping Report

Site: Custom Cleaners
Columbus, Ohio

Prepared for:

OHIO EPA
4675 HOMER DRIVE
SITE INVESTIGATION FIELD UNIT
GROVEPORT, OH
UNITED STATES

Prepared on:

September 19, 2012

Project Summary

W. L. Gore & Associates, Inc. (Gore) provided the GORE® Survey (Survey) used at:

Custom Cleaners

Columbus, Ohio

The service provided by Gore included delivery of the required quantity of GORE Modules, analysis by the method described for the requested organic compounds, and reporting of the data. A Laboratory Report was issued previously which summarized the field sampling and analytical procedures, and contained the sample results.

Normally, when printed at scale, the maps are 11 x 17 inch in size. Other sizes are available upon request. General and project specific comments on the contouring and mapping can be found on the next page.

Maps prepared by:

Jim E Whetzel

Project Manager

Maps reviewed/approved by:

Jay W Hodny

Project Manager

General Comments

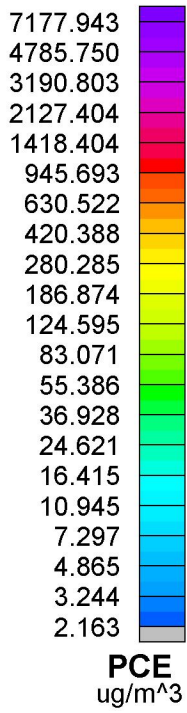
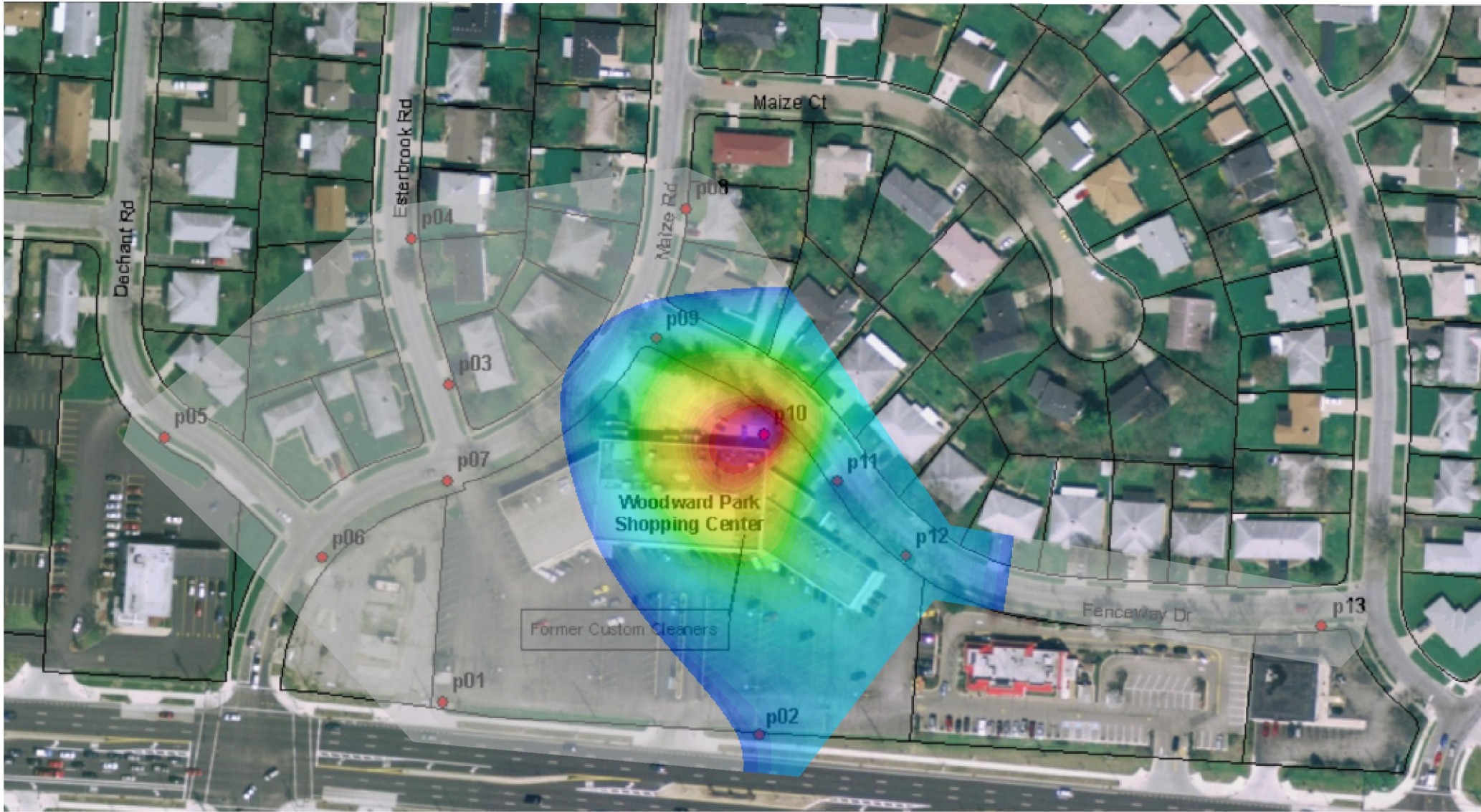
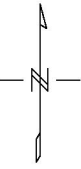
A minimum curvature algorithm was used to interpolate the data from the sample locations to a regularly-spaced grid. The resulting surface is considered to be the smoothest possible surface that will fit the observed values at each sample location (i.e., data honoring). The interpolation is performed in log space, with grid cell sizes approximately one-tenth the average distance between sample locations. For example, when GORE® Modules are placed about 50 feet apart, the grid cell size is set to five feet.

Where observations trend from lower to higher values, and moving towards the edge of the area sampled, the contour surface will continue to rise (showing warmer colors) as no additional data exist to constrain the interpolation. Where observations trend from high to low, towards the edge of the area sampled, the opposite is true.

Contour minimums and maximums used in the color interval assignment are established based on the QA blank levels (trip and method blanks), method detection limits, and maximum values observed. The minimum contour level (gray color) is established using the maximum QA blank level or method detection limit, whichever is greater, per compound or groups of compounds. The maximum contour level is set at the maximum value observed, per compound or groups of compounds. Contour interval assignments can be modified at the client's request.

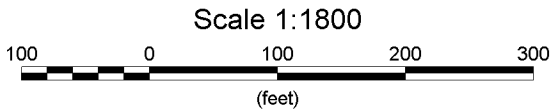
Project Specific Comments

None.



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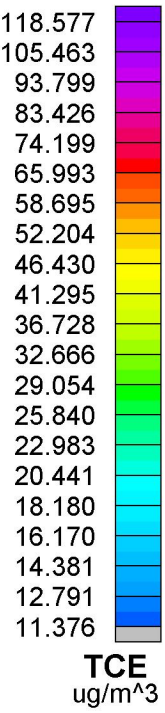
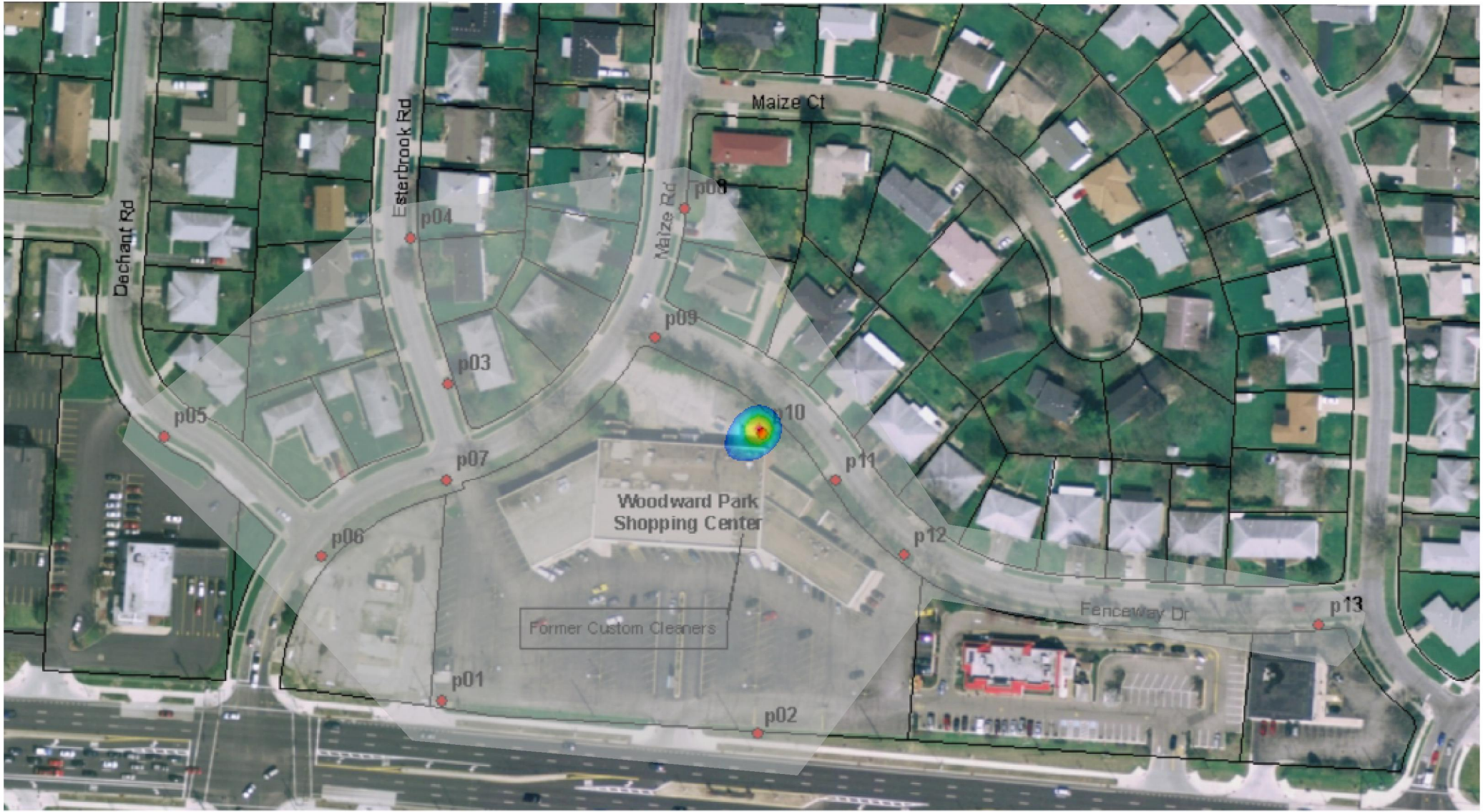
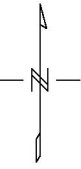
GORE™ Surveys for Environmental Site Assessment



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ELKTON, MD, USA 21921
USA
(410) 392-7600

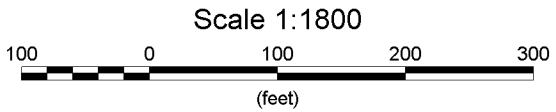
Ohio EPA, Groveport, OH
Custom Cleaners/ Woodward Park Shopping Center
Tetrachloroethene
Estimated Soil Gas Concentrations

| | | | |
|-------------------------|--------------|--------------------------|------------|
| DATE DRAWN: 14 Sep 2012 | DRAWN BY: JW | ORIG. CAD: | SITE CODE: |
| REV. DATE: | REV. #: | PROJECT NUMBER: 21585177 | |



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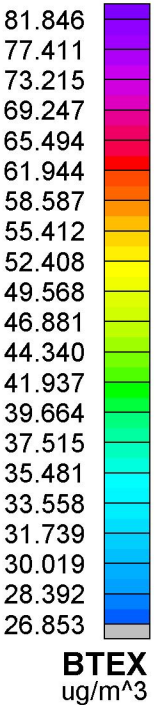
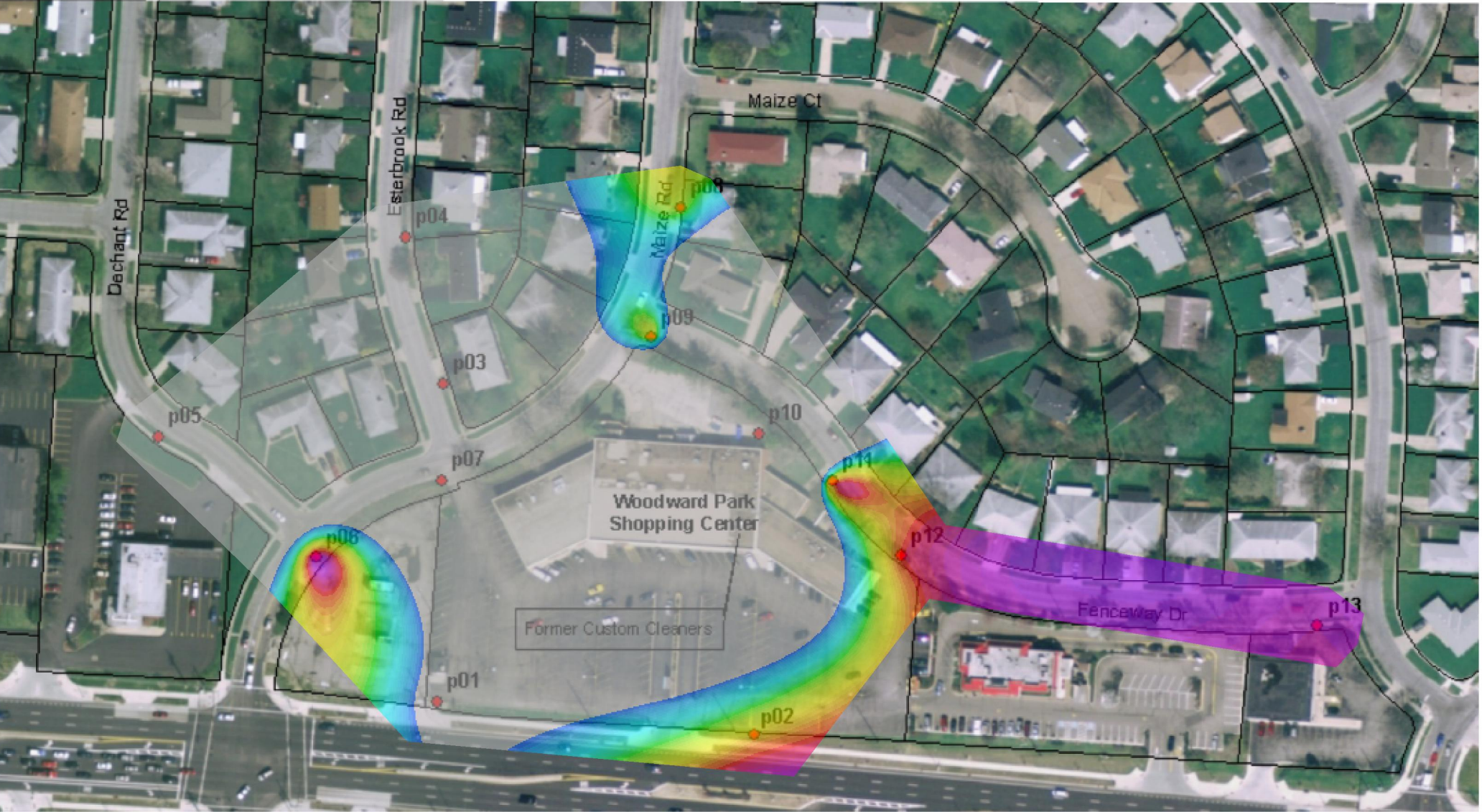
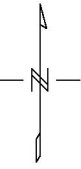
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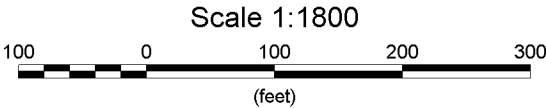
Ohio EPA, Groveport, OH
Custom Cleaners/ Woodward Park Shopping Center
Trichloroethene
Estimated Soil Gas Concentrations

| | | | |
|-------------------------|--------------|--------------------------|------------|
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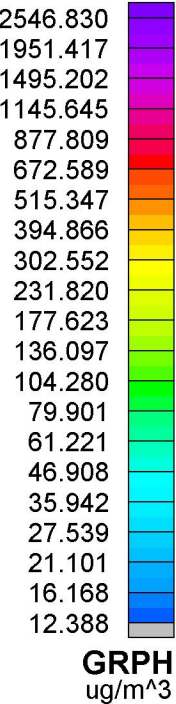
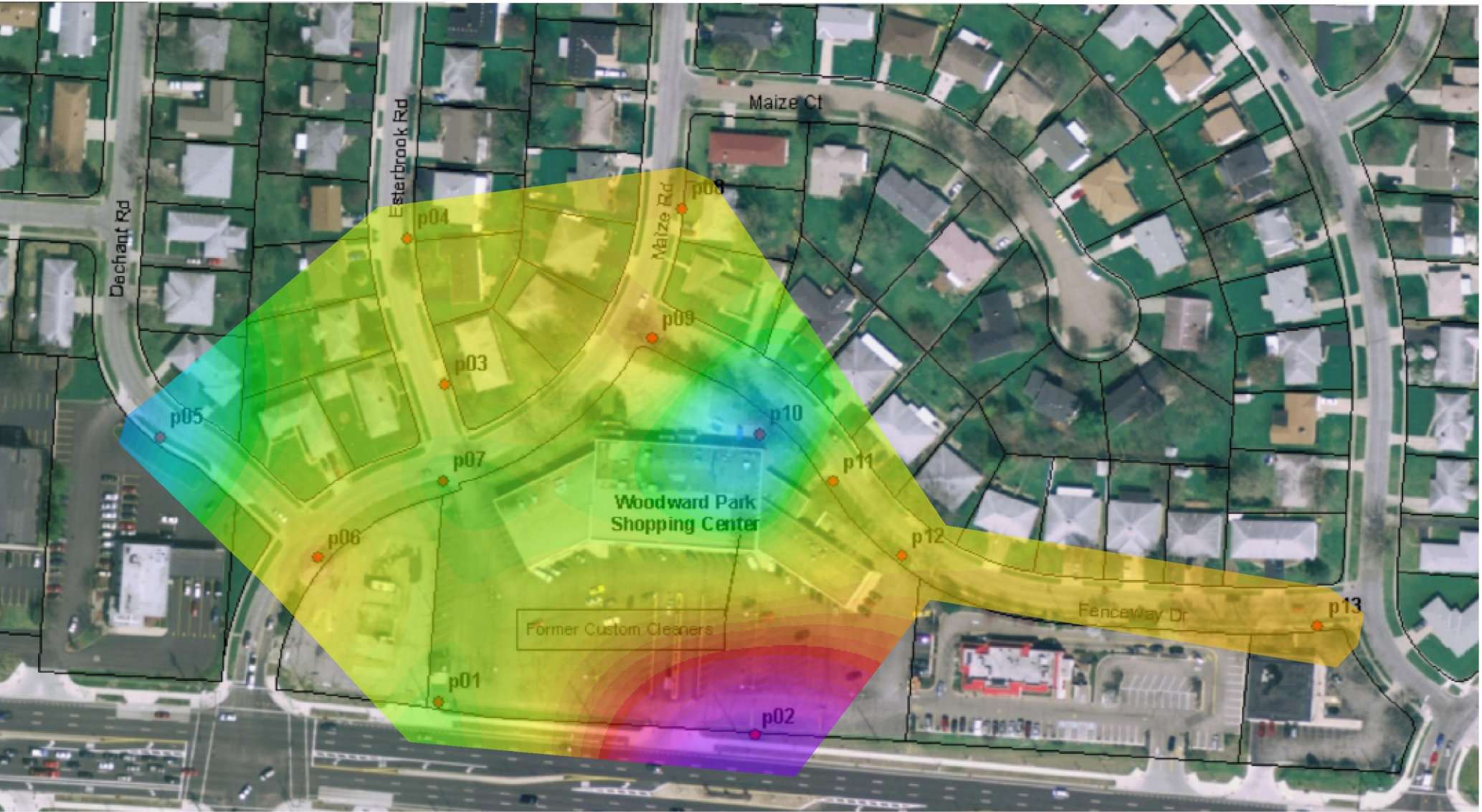
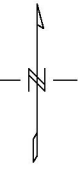
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USA
(410) 392-7600

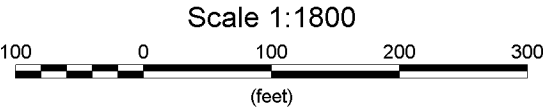
Ohio EPA, Groveport, OH
Custom Cleaners/ Woodward Park Shopping Center
BTEX
Estimated Soil Gas Concentrations

| | | | |
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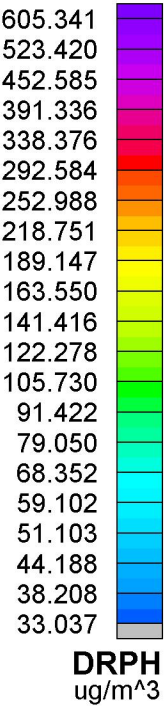
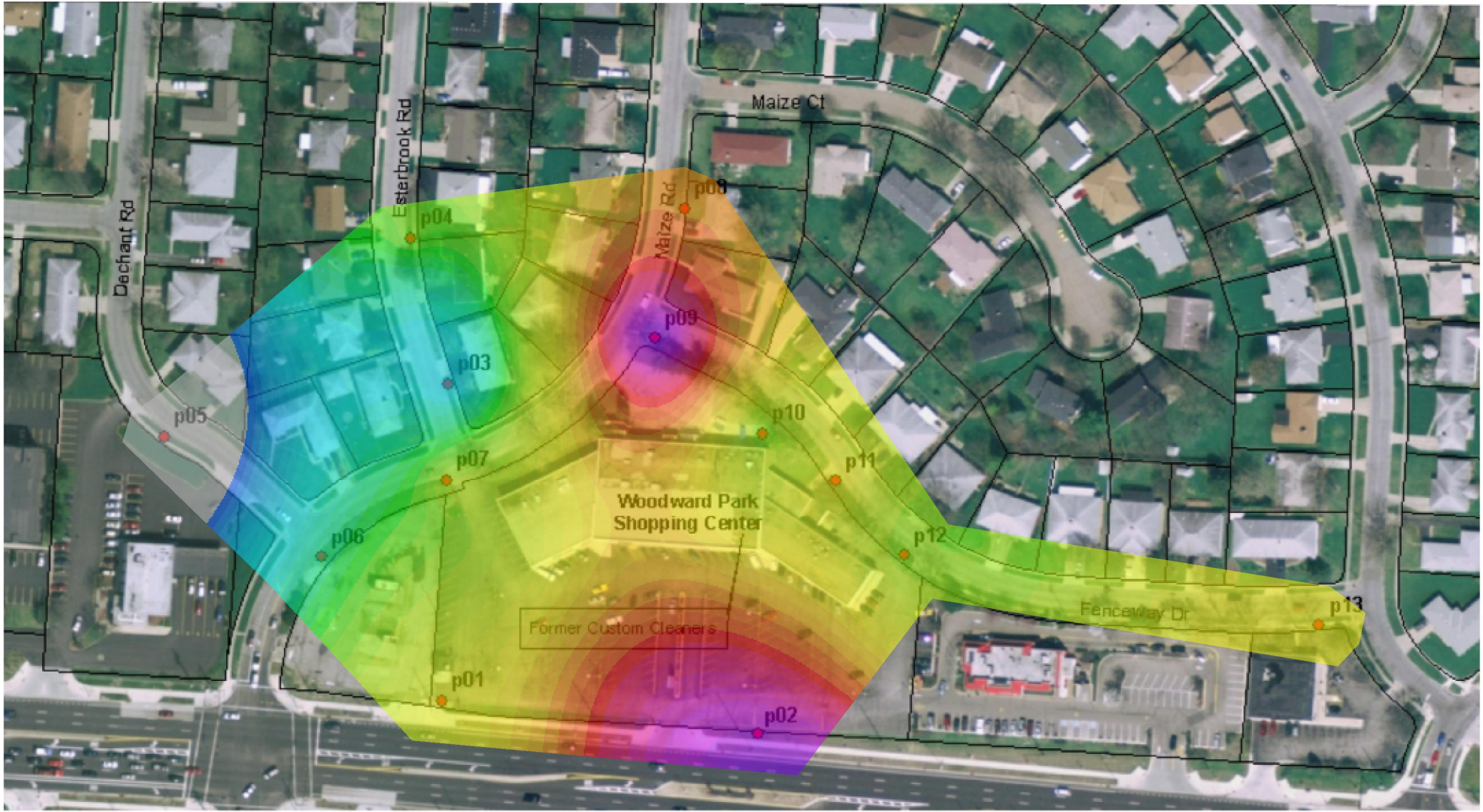
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Ohio EPA, Groveport, OH
Custom Cleaners/ Woodward Park Shopping Center
Gasoline-Range Petroleum Hydrocarbons
Estimated Soil Gas Concentrations

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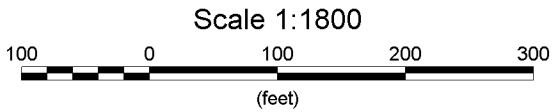
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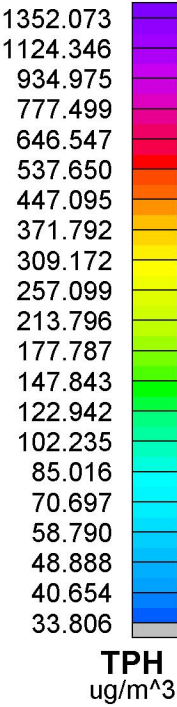
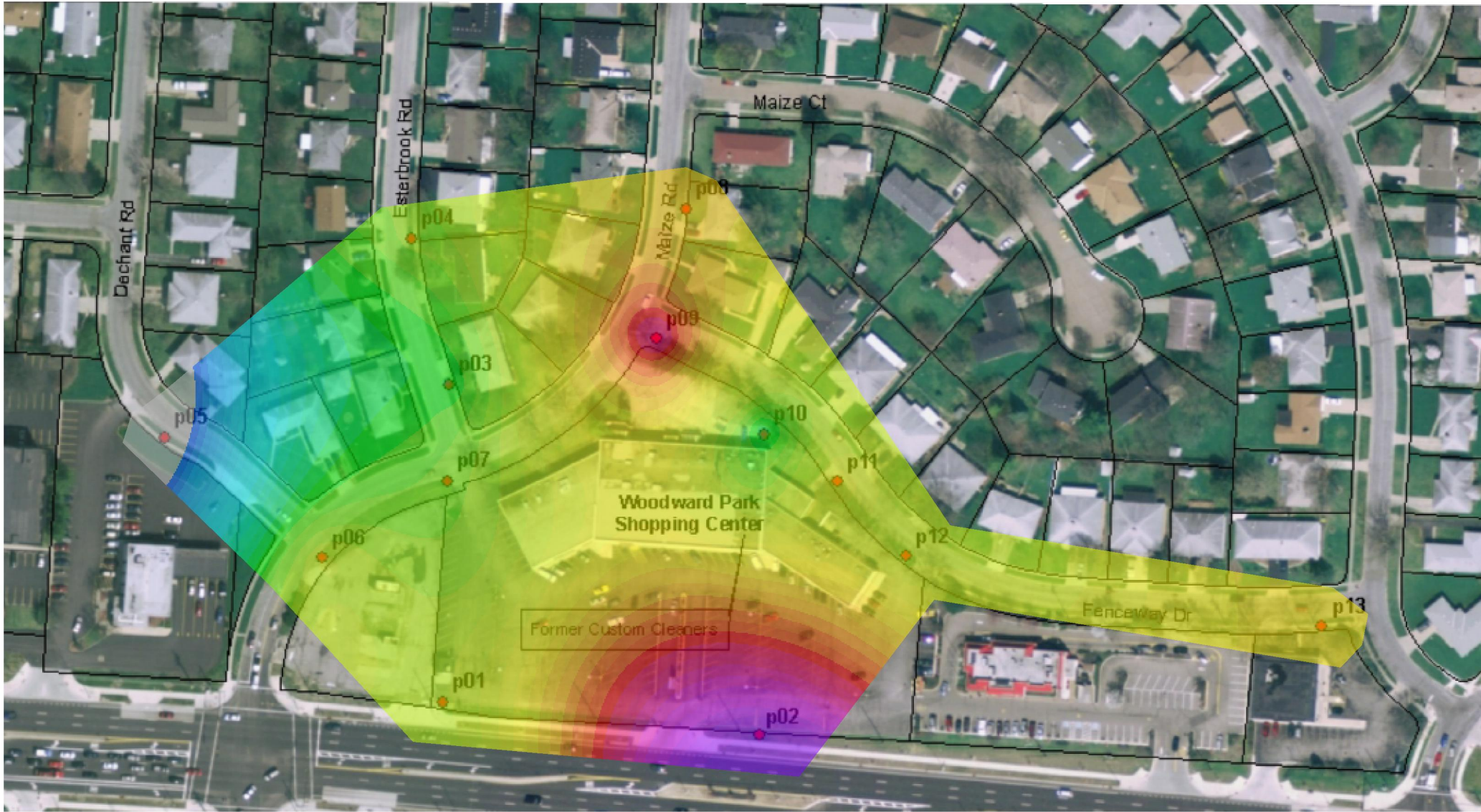
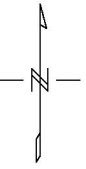
Ohio EPA, Groveport, OH
Custom Cleaners/ Woodward Park Shopping Center
Diesel-Range Petroleum Hydrocarbons
Estimated Soil Gas Concentrations

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GORE™ Surveys for Environmental Site Assessment



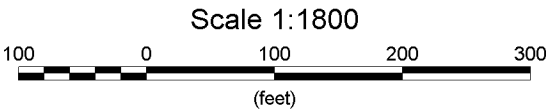
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USA
(410) 392-7600

Ohio EPA, Groveport, OH
Custom Cleaners/ Woodward Park Shopping Center
Total Petroleum Hydrocarbons
Estimated Soil Gas Concentrations

| | | | |
|-------------------------|--------------|--------------------------|------------|
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100 Chesapeake Blvd. • P.O. Box 10
Elkton, MD 21922-0010
Phone: 410.392.7600 • 800.432.7998
Fax: 410.506.4780

gore.com/surveys

SALES OFFICES:
Europe: +49.89.4612.2198
San Francisco: 415.648.0438
Email: environmental@wlgore.com





GORE® Surveys

FOR ENVIRONMENTAL

Laboratory Report

Site: Custom Cleaners
Columbus, Ohio

Prepared for:

OHIO EPA
4675 HOMER DRIVE
SITE INVESTIGATION FIELD UNIT
GROVEPORT, OH
UNITED STATES

Prepared on:
September 13, 2012

Project Summary and Objective

W. L. Gore & Associates, Inc. (Gore) provided the GORE® Survey (Survey) used at:

Custom Cleaners

Columbus, Ohio

The service provided by Gore included delivery of the required quantity of GORE® Modules, analysis by the method described below for the requested organic compounds, reporting of the data, and contour mapping (as needed).

This report includes results for only the samples noted under the Laboratory Sample Report section. If contour maps are part of the project deliverable, the maps will be prepared and issued under a separate report cover, upon receipt of a usable sitemap (electronic) and compound choices for contouring.

Written/submitted by:

Dayna M Cobb

Project Manager

Reviewed/approved by:

Jim E Whetzel

Project Manager

Analytical data approved by:

Fatima Niazi

Chemist



GORE® Survey - Laboratory Report

Quality Assurance Statement

The Survey Products Group laboratory, at W. L. Gore & Associates' facility in Elkton, MD USA, operates under the guidelines of its ISO Standard 17025 DoD ELAP accreditation, and its Quality Assurance Manual, Operating Procedures, and Methods (SPG-SOP-0462).

For this project, the analytical method, results, and observations reported do [] do not [☒] fall within the scope of W. L. Gore's ISO 17025 accreditation.

Screening/Concentration Method

The GORE® Modules are analyzed at Gore's fixed laboratory using thermal desorption-gas chromatography/mass spectrometry (TD-GC/MS) instrumentation following U.S. EPA Method 8260 (SPG-WI-0292) which includes the following:

- **BFB Tuning Frequency:** A BFB tune is analyzed at the start of each analytical run and after every 30 samples.
- **Initial Calibration:** A minimum of a five point calibration curve is analyzed prior to the analysis of samples.
- **Linearity of Target Compounds:** If the RSD of any target analyte is less than or equal to 25% then average response factor can be used for quantitation. If the RSD exceeds 25% for a target compound a regression equation can be used for quantitation.
- **Continuing Calibration Verification:** After every 10 samples, and at the end of each analytical batch, and a second-source Reference Standard is analyzed near the mid point of the calibration curve. The acceptance criteria for all target analytes in the reference standards are +/- 50% of the true value.
- **Method Blank:** Analyzed prior to the analysis of field samples and every 30 samples.

Note: Analyte levels reported for the field-deployed GORE® Modules that exceed trip and method blank levels, and/or method detection limit, are more likely to have originated from on-site sources.

| | |
|----------------------------|-------------------|
| Media Sampled: | SOIL GAS |
| Chemist - sample analysis: | Ian McMullen |
| Chemist - data processor: | Kelly J Stringham |
| Chemist - data review: | Fatima Niazi |

Method deviations: There was a hit of 0.08 ug of Fluorene in the initial method blank.

Please note that data file names ending with R are rerun samples using the second pair of sorbers, in which the original results were not reported. Data file names ending in D are duplicate analysis results for the second set of sorbers from the same module, and are reported.



Additional Report Information

- Comments
- Laboratory Sample Report
- Chain of Custody
- Installation and Retrieval Log
- Data Table(s) and Key to Data Table(s)
- Concentration Calculation Method Summary (as applicable)
- Total Ion Chromatograms

Project Specific Comments

This project was sent out in two different shipments. Modules 686613 and 686623 were run for duplicate analysis per the installation/retrieval log.

Survey period ¹ 5 days.

Tamper seal intact: Yes

Date received: 8/28/2012 12:30 PM By: Darlene Yellowdy

COC returned: Yes

Comments:

1 - Installation start to end of retrieval, as reported. See installation and retrieval log for individual deployment and retrieval dates and times (i.e., sampler exposure time).

General Comments

Analytical QA/QC

Laboratory instrumentation consists of gas chromatographs equipped with mass selective detectors, coupled with automated thermal desorption units. Sample preparation involves cutting the tip off the bottom of the GORE® Module, and transferring one or more "sorbents" to a thermal desorption tube for analysis. The insertion/retrieval cord prevents soil, water and other interferences from coming in contact with the adsorbent. No further sample preparation is required. Any replicate sorbents not consumed in the initial analysis will be discarded fifteen (15) days from the date of the laboratory report.

Data are archived and stored in a secure manner as per Gore's Quality Assurance program (SPG-SOP-0462).

Total petroleum hydrocarbons (TPH), gasoline-range petroleum hydrocarbons (GRPH), and/or diesel range petroleum hydrocarbons (DRPH), when reported, are calculated using the area under the peaks observed in m/z 55 and 57 selected ion chromatograms. Quantitation of the mass values was performed using the response factor for a specific alkane (present in the calibration standards). TPH values include the entire chromatogram and provide estimates for aliphatic hydrocarbon ranges of C4 to C20. GRPH and DRPH include only the relevant regions of the chromatograms and provide estimates for C4 to C10 and C10 to C20 aliphatic hydrocarbons, respectively.

Trip blanks were provided to document potential exposures that were not part of the signal of interest (e.g., impact during sampler shipment, installation and/or retrieval, and storage). The trip blanks are identically manufactured and packaged GORE® Modules to those modules deployed in the field. The trip blanks remain unopened during all phases of the project. Levels reported on the trip blanks may indicate potential impact to the modules other than the contaminant source of interest.

Unresolved peak envelopes (UPEs) are represented as a series of compound peaks clustered together around a central gas chromatograph elution time in the total ion chromatogram. UPEs may be indicative of complex fluid mixtures. UPEs observed early in the chromatograms are considered to indicate presence of more volatile fluids, while UPEs observed later in the chromatogram may indicate the presence of less volatile fluids. Multiple UPEs may indicate the presence of multiple complex fluids.

Total ion chromatograms (TICs) are included in the Attachments. The eight-digit serial number of each module is incorporated in the TIC identification (e.g., 12345678.D represents GORE® Module 12345678).

General Comments

Soil Gas Sampling

For soil gas sampling, the GORE® Survey reports mass levels migrating through the open pore spaces of the soil and diffusing through the sampler membrane for sorption by the engineered, hydrophobic adsorbents, housed within the membrane tube. During the migration of the soil gas away from the source to the GORE® Module, the vapors are subject to a variety of attenuation factors. The soil gas masses reported on the modules compare favorably with the concentrations reported in the soil or groundwater (e.g., where soil gas levels are reported at greater levels to other sampled locations on the site, the matrix data should reveal the same pattern, and vice versa). However, due to a variety of factors, a perfect comparison between matrix data and soil gas levels can rarely be achieved.

Soil gas concentrations ($\mu\text{g}/\text{m}^3$) are calculated following the method described in the Additional Report Information section.

Soil gas signals reported by this method cannot be correlated specifically to soil adsorbed, groundwater, and/or free-phase contamination. The soil gas signal reported from each GORE® Module can evolve from all of these sources. Differentiation between soil and groundwater contamination can only be achieved with prior knowledge of the site history (i.e., the site is known to have groundwater contamination only).

Air Sampling

For indoor, outdoor, and crawlspace air sampling, the GORE® Survey reports mass levels present in the air and diffusing through the sampler membrane for sorption by the engineered adsorbents housed within the membrane tube.

Air concentrations ($\mu\text{g}/\text{m}^3$) are calculated following the method described in the Additional Report Information section.

Groundwater and Sediment Porewater Sampling

For groundwater and sediment porewater sampling, the GORE® Survey reports the mass levels of compounds present in the water which, when coming in contact with the sampler membrane, partitions out of solution, and diffuses through the sampler membrane for sorption by the engineered adsorbents.

Water concentrations ($\mu\text{g}/\text{L}$) are calculated using the quantified mass, exposure period and the compound specific uptake rate. The rates were measured under controlled experimental conditions. The uptake rates are corrected for water pressure (depth of the GORE® Module below the water table), water temperature and the aquifer flow rate.



GORE® Survey - Laboratory Report

LABORATORY SAMPLE REPORT

Project: ENV 21585177

Site Name: Custom Cleaners

Module Type: SPG0008

| Module ID | Sample Type | Field ID | |
|----------------------------|--------------------------|---------------------|-------------------|
| 00686607 | FIELD_SAMPLE | p09 | |
| 00686608 | FIELD_SAMPLE | p08 | |
| 00686609 | FIELD_SAMPLE | p06 | |
| 00686610 | FIELD_SAMPLE | p05 | |
| 00686611 | FIELD_SAMPLE | p04 | |
| 00686612 | FIELD_SAMPLE | p02 | |
| 00686613 | FIELD_SAMPLE | p03 | |
| 00686614 | FIELD_SAMPLE | p01 | |
| 00686615 | FIELD_SAMPLE | p07 | |
| 00686616 | FIELD_SAMPLE | p12 | |
| 00686617 | FIELD_SAMPLE | p13 | |
| 00686618 | UNUSED | Not Provided | |
| 00686619 | TRIP_BLANK | Trip Blank | |
| 00686620 | TRIP_BLANK | Trip Blank | |
| 00686621 | TRIP_BLANK | Trip Blank | |
| 00686622 | TRIP_BLANK | Trip Blank | |
| 00686623 | FIELD_SAMPLE | p10 | |
| 00686624 | FIELD_SAMPLE | p11 | |
| Total # "FIELD SAMPLES" | Total # "TRIP BLANKS" | Total # "UNUSED" | Total # "LOST" |
| 13 | 4 | 1 | 0 |

Duplicate samples: 0



GORE SURVEY PRODUCTS GROUP
100 CHESAPEAKE BOULEVARD ELKTON MARYLAND USA
+1 410 392 7600 ENVIRONMENTAL@WLGORE.COM

GORE® Survey Chain of Custody
Soil gas and/or Air Sampling

Production Order #: **21588610**

Customer Name: OHIO EPA
Address: 4675 HOMER DRIVE
SITE INVESTIGATION FIELD UNIT
GROVEPORT, OH 43125
USA

Site Name: Ohio EPA
Site Address: Groveport
Project Manager:

Serial # of GORE Modules Shipped
00686616 - 00686624

| | | | |
|-------------------------------|------|------------------|---|
| # of Modules for Installation | 8.00 | # of Trip Blanks | 1 |
| Total Modules Shipped | 9.00 | Pieces | |
| Total Modules Received | 9 | Pieces | |
| Total Modules Installed | 4 | Pieces | |

Serial # of Trip Blanks (Client Decides)

| | | |
|--------------------------------------|--|--|
| 686619 686620 686621 686622 | | |
|--------------------------------------|--|--|

| | |
|--|--|
| Prepared By: <u>Marlene Galloway</u> | Installation Method: (Circle those that apply) Slide Hammer <input type="radio"/> Hammer Drill <input checked="" type="radio"/> Auger <input type="radio"/> |
| Verified By: <u>Clarence Little</u> | Other _____ |
| Installation Performed By: Name: <u>Wendy Vowut et</u> | Retrieval Performed By: Name: <u>Wendy Vowut</u> |
| Company: <u>Ohio EPA</u> | Company: <u>Ohio EPA</u> |
| Installation Start Date / Time: <u>8/22/12 940</u> | Retrieval Start Date / Time: <u>8/27/12 0921</u> |
| Installation Complete Date / Time: <u>8/22/12 1415</u> | Retrieval Complete Date / Time: <u>8/27/12 1006</u> |
| Total Modules Retrieved: <u>4</u> | |
| Total Modules Lost In Field: <u>0</u> | |
| Total Unused Modules Returned: <u>1</u> | |
| Relinquished By: <u>Marlene Galloway</u> Date/Time: <u>8-30-12</u> | Received By: <u>Wendy Vowut</u> Date/Time: <u>4/2/12</u> |
| Company: <u>W.H. Gore</u> <u>6:00 Am</u> | Company: <u>Ohio EPA</u> <u>1400</u> |
| Relinquished By: <u>Wendy Vowut</u> Date/Time: <u>8/27/12</u> | Received By: _____ Date/Time: _____ |
| Company: <u>Ohio EPA</u> <u>1300</u> | Company: _____ |
| Relinquished By: _____ Date/Time: _____ | Received By: <u>Marlene Galloway</u> Date/Time: <u>8-28-12</u> |
| Company: _____ | Company: <u>W.H. Gore</u> <u>12:30 Am</u> |



GORE SURVEY PRODUCTS GROUP
100 CHESAPEAKE BOULEVARD ELKTON MARYLAND USA
+1 410 392 7600 ENVIRONMENTAL@WLGORE.COM

GORE® Survey Chain of Custody
Soil gas and/or Air Sampling

Production Order #: 21585177

Customer Name: OHIO EPA
Address:

Site Name: Ohio EPA
Site Address: Groveport

Project Manager:

Serial # of GORE Modules Shipped
00686607 - 00686615

of Modules for Installation 7.00
Total Modules Shipped 9.00
Total Modules Received 9
Total Modules Installed 9

of Trip Blanks 2
Pieces
Pieces
Pieces

Serial # of Trip Blanks (Client Decides)

| | | |
|--|--|--|
| | | |
|--|--|--|

Prepared By:

Verified By:

Installation Method: (Circle those that apply)

Slide Hammer Hammer Drill Auger

Other

Installation Performed By:

Name: Wendy Vorwerk

Company: Ohio EPA

Retrieval Performed By:

Name: Wendy Vorwerk

Company: Ohio EPA

Installation Start Date / Time: 8/22/12 940

Retrieval Start Date / Time: 8/27/12 0921

Installation Complete Date / Time: 8/22/12 1415

Retrieval Complete Date / Time: 8/27/12 1006

Total Modules Retrieved:

Total Modules Lost In Field:

Total Unused Modules Returned:

Relinquished By

Date/Time
3-28-12
1:00PM

Company:

W.L. GORE

Received By:

Company:

Wendy Vorwerk
Ohio EPA

Date/Time
3-29-12
1300

Relinquished By

Date/Time
8/27/12
1300

Company:

Ohio EPA

Received By:

Company:

Christene Yellowdy
W.L. Gore

Date/Time
8-28-12
12:30 AM

Relinquished By

Date/Time

Company:

Received By:

Company:

**W. L. Gore & Associates, Inc.**

100 Chesapeake Boulevard

Elkton, MD USA 21921

ph: 410-392-7600

GORE Project No:

ENV 21585177/ENV 21588610

Site Name:

Ohio EPA

Site Location:

Groveport

GORE^(R) Surveys**Installation & Retrieval Log****Company Name:**

OHIO EPA

Location:

Custom Cleaners, Columbus Ohio

Samples collected by:

Wendy Vorwerk

* Optional or as needed

| MODULE SERIAL NO. | FIELD ID* (e.g., arbitrary, US EPA) | SAMPLE TYPE (Field Sample, Trip Blank, Field Blank, etc.) | INSTALLATION DATE & TIME MM/DD/YYYY HH:MM (24 Hour) ex. 12/27/2000 13:00 | RETRIEVAL DATE & TIME MM/DD/YYYY HH:MM (24 Hour) ex. 12/30/2000 13:00 | OBSERVATIONS/COMMENTS* (e.g., sample depth, location description, missing, pulled from hole, etc. - as needed) | SAMPLE ENVIRONMENT* (e.g., grass, bare soil, through slab) |
|-------------------|-------------------------------------|---|--|---|---|---|
| 00686607 | p09 | FIELD_SAMPLE | 8/22/2012 1315 | 8/27/12 0952 | All the samplers were set between two and three feet. Soil was dry to slightly moist. | grass |
| 00686608 | p08 | FIELD_SAMPLE | 8/22/2012 1300 | 8/27/12 0950 | | grass |
| 00686609 | p06 | FIELD_SAMPLE | 8/22/2012 1135 | 8/27/12 0942 | | grass |
| 00686610 | p05 | FIELD_SAMPLE | 8/22/2012 1118 | 8/27/12 0940 | | grass |
| 00686611 | p04 | FIELD_SAMPLE | 8/22/2012 1052 | 8/27/12 0932 | | grass |
| 00686612 | p02 | FIELD_SAMPLE | 8/22/2012 1010 | 8/27/12 0925 | | grass |
| 00686613 | p03 | FIELD_SAMPLE / Duplicate | 8/22/2012 1036 | 8/27/12 0930 | | grass |
| 00686614 | p01 | FIELD_SAMPLE | 8/22/2012 0940 | 8/27/12 0921 | | grass |
| 00686615 | p07 | FIELD_SAMPLE | 8/22/2012 1150 | 8/27/12 0945 | | grass |
| | | | | | | |
| | | | | | | |
| 00686616 | p12 | FIELD_SAMPLE | 8/22/2012 1400 | 8/27/12 1002 | | grass |
| 00686617 | p13 | FIELD_SAMPLE | 8/22/2012 1415 | 8/27/12 1006 | | grass |
| 00686618 | | Not used | | | | |
| 00686619 | | TRIP_BLANK | | | | |
| 00686620 | | TRIP_BLANK | | | | |
| 00686621 | | TRIP_BLANK | | | | |
| 00686622 | | TRIP_BLANK | | | | |
| 00686623 | p10 | FIELD_SAMPLE / Duplicate | 8/22/2012 1326 | 8/27/12 0958 | | grass |
| 00686624 | p11 | FIELD_SAMPLE | 8/22/2012 1341 | 8/27/12 1000 | | grass |



GORE^(R) Surveys

Installation & Retrieval Log

* Optional or as needed

| MODULE SERIAL NO. | YES / NO | | | AT MINIMUM PROVIDE SOIL TYPE | | |
|-------------------|---|--------|-----------------------------|---|---|---|
| | EVIDENCE OF LIQUID PETROLEUM HYDROCARBONS ? | ODOR ? | WATER IN INSTALLATION HOLE? | SOIL TYPE AT MODULE DEPTH (clay, loamy sand etc.) | TOTAL SOIL POROSITY AT MODULE DEPTH* (total volume of pores/total volume) | WATER FILLED SOIL POROSITY AT MODULE DEPTH* (volume of water/volume of pores) |
| 00686607 | N | N | N | Silt with some small gravel | | |
| 00686608 | N | N | N | Silt | | |
| 00686609 | N | N | N | Silt with some small gravel | | |
| 00686610 | N | N | N | Silt | | |
| 00686611 | N | N | N | Silty Clay Loam, little sand | | |
| 00686612 | N | N | N | Silty Clay Loam | | |
| 00686613 | N | N | N | Silty Clay Loam | | |
| 00686614 | N | N | N | Silty Clay loam w/ some coarse sand | | |
| 00686615 | N | N | N | Clay Loam | | |
| | | | | | | |
| | | | | | | |
| 00686616 | N | N | N | Silty Clay Loam | | |
| 00686617 | N | N | N | Silty Clay Loam | | |
| 00686618 | | | | | | |
| 00686619 | | | | | | |
| 00686620 | | | | | | |
| 00686621 | | | | | | |
| 00686622 | | | | | | |
| 00686623 | N | N | N | Silt | | |
| 00686624 | N | N | N | Silt | | |

GORE(TM) SURVEYS ANALYTICAL RESULTS
OHIO EPA, GROVEPORT, OH
GORE STANDARD TARGET VOCs/SVOCs PLUS GRPH AND DRPH
CUSTOM CLEANERS AND WOODWARD PARK SHOPPING CENTER SITES
PRODUCTION ORDER # 21585177

| DATE ANALYZED | SAMPLE NAME | FIELD | GRPH, ug | DRPH, ug | TPH, ug | BTEX, ug | BENZ, ug | TOL, ug | ETBENZ, ug | mpXYL, ug | oXYL, ug |
|---------------|--------------|------------|----------|----------|---------|----------|----------|---------|------------|-----------|----------|
| | RL= | ID | 0.50 | 0.50 | 0.50 | | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 |
| 9/4/12 | 686607 | p09 | 3.46 | 12.25 | 15.28 | 0.63 | nd | 0.08 | 0.19 | 0.24 | 0.13 |
| 9/5/12 | 686608 | p08 | 4.50 | 8.22 | 12.15 | 0.33 | 0.03 | 0.12 | 0.04 | 0.10 | 0.04 |
| 9/5/12 | 686609 | p06 | 3.11 | 1.60 | 4.32 | 0.32 | 0.04 | 0.13 | 0.05 | 0.07 | 0.03 |
| 9/4/12 | 686610 | p05 | bdl | bdl | 0.77 | nd | nd | nd | nd | nd | nd |
| 9/4/12 | 686611 | p04 | 1.48 | 2.22 | 3.51 | 0.06 | nd | 0.03 | bdl | 0.03 | bdl |
| 9/5/12 | 686612 | p02 | 19.94 | 9.77 | 27.21 | 0.20 | 0.02 | 0.07 | 0.02 | 0.06 | 0.03 |
| 9/4/12 | 686613 | p03 | 2.00 | 1.81 | 3.56 | 0.04 | nd | 0.02 | nd | 0.02 | bdl |
| 9/5/12 | 686613D | p03 | 1.38 | bdl | 1.67 | 0.02 | nd | 0.02 | nd | bdl | bdl |
| 9/5/12 | 686614 | p01 | 0.82 | 3.22 | 3.94 | 0.22 | nd | 0.04 | 0.05 | 0.09 | 0.04 |
| 9/4/12 | 686615 | p07 | 0.93 | 3.16 | 3.98 | 0.07 | nd | 0.03 | bdl | 0.04 | bdl |
| 9/5/12 | 686616 | p12 | 2.21 | 2.19 | 4.13 | 0.25 | 0.02 | 0.09 | 0.04 | 0.07 | 0.03 |
| 9/4/12 | 686617 | p13 | 2.84 | 3.40 | 5.88 | 0.30 | 0.02 | 0.11 | 0.05 | 0.08 | 0.04 |
| 9/4/12 | 686623 | p10 | bdl | 4.09 | 4.28 | nd | nd | nd | nd | nd | nd |
| 9/5/12 | 686623D | p10 | bdl | 3.17 | 3.28 | nd | nd | nd | nd | nd | nd |
| 9/4/12 | 686624 | p11 | 3.43 | 6.71 | 9.71 | 0.64 | 0.05 | 0.24 | 0.08 | 0.20 | 0.08 |
| | | | | | | | | | | | |
| 9/4/12 | 686619 | Trip Blank | bdl | bdl | 0.54 | nd | nd | nd | nd | nd | nd |
| 9/4/12 | 686620 | Trip Blank | bdl | 0.71 | 0.73 | nd | nd | nd | nd | nd | nd |
| 9/5/12 | 686621 | Trip Blank | bdl | bdl | bdl | nd | nd | nd | nd | nd | nd |
| 9/5/12 | 686622 | Trip Blank | bdl | bdl | bdl | nd | nd | nd | nd | nd | nd |
| | | | | | | | | | | | |
| 9/5/12 | method blank | | nd | bdl | bdl | nd | nd | nd | nd | nd | nd |

No RL (Reporting Limit) is available for summed combinations of analytes. In summed columns (eg., BTEX), the reported values should be considered ESTIMATED if any of the individual compounds were reported as bdl.

GORE(TM) SURVEYS ANALYTICAL RESULTS
OHIO EPA, GROVEPORT, OH
GORE STANDARD TARGET VOCs/SVOCs PLUS GRPH AND DRPH
CUSTOM CLEANERS AND WOODWARD PARK SHOPPING CENTER SITES
PRODUCTION ORDER # 21585177

| SAMPLE NAME | C11, C13, &C15, ug | UNDEC, ug | TRIDEC, ug | PENTADEC, ug | TMBs, ug | 124TMB, ug | 135TMB, ug | ct12DCE, ug | t12DCE, ug |
|--------------|--------------------|-----------|------------|--------------|----------|------------|------------|-------------|------------|
| RL= | | 0.05 | 0.05 | 0.05 | | 0.02 | 0.02 | | 0.02 |
| 686607 | 0.75 | 0.35 | 0.30 | 0.10 | 0.29 | 0.23 | 0.06 | nd | nd |
| 686608 | 0.38 | 0.27 | 0.11 | bdl | 0.07 | 0.05 | 0.02 | nd | nd |
| 686609 | 0.06 | 0.06 | bdl | bdl | 0.04 | 0.04 | bdl | nd | nd |
| 686610 | 0.21 | 0.21 | nd | nd | nd | nd | nd | nd | nd |
| 686611 | bdl | bdl | bdl | nd | bdl | bdl | bdl | nd | nd |
| 686612 | 0.41 | 0.34 | 0.07 | bdl | 0.10 | 0.08 | 0.02 | nd | nd |
| 686613 | bdl | bdl | bdl | bdl | 0.02 | 0.02 | nd | nd | nd |
| 686613D | bdl | bdl | bdl | nd | nd | nd | nd | nd | nd |
| 686614 | 0.05 | 0.05 | bdl | bdl | 0.14 | 0.10 | 0.04 | nd | nd |
| 686615 | bdl | bdl | bdl | bdl | 0.03 | 0.03 | bdl | nd | nd |
| 686616 | bdl | bdl | bdl | bdl | 0.04 | 0.04 | bdl | nd | nd |
| 686617 | 0.13 | 0.13 | bdl | bdl | 0.07 | 0.05 | 0.02 | nd | nd |
| 686623 | bdl | bdl | bdl | bdl | bdl | bdl | bdl | 0.03 | nd |
| 686623D | bdl | bdl | bdl | bdl | bdl | bdl | bdl | 0.03 | nd |
| 686624 | 0.27 | 0.15 | 0.13 | bdl | 0.13 | 0.10 | 0.03 | nd | nd |
| | | | | | | | | | |
| 686619 | nd | nd | nd | nd | nd | nd | nd | nd | nd |
| 686620 | nd | nd | nd | nd | nd | nd | nd | nd | nd |
| 686621 | nd | nd | nd | nd | nd | nd | nd | nd | nd |
| 686622 | bdl | bdl | nd | nd | nd | nd | nd | nd | nd |
| | | | | | | | | | |
| method blank | nd | nd | nd | nd | nd | nd | nd | nd | nd |

No RL (Reporting Limit) is available for summed combinations of analytes. In summed columns (eg., BTEX), the reported values should be considered ESTIMATED if any of the individual compounds were reported as bdl.

GORE(TM) SURVEYS ANALYTICAL RESULTS
OHIO EPA, GROVEPORT, OH
GORE STANDARD TARGET VOCs/SVOCs PLUS GRPH AND DRPH
CUSTOM CLEANERS AND WOODWARD PARK SHOPPING CENTER SITES
PRODUCTION ORDER # 21585177

| SAMPLE NAME | c12DCE, ug | NAPH&2-MN, ug | NAPH, ug | 2MeNAPH, ug | MTBE, ug | 11DCA, ug | CHCl3, ug | 111TCA, ug | 12DCA, ug | TCE, ug |
|--------------|------------|---------------|----------|-------------|----------|-----------|-----------|------------|-----------|---------|
| RL= | 0.02 | | 0.05 | 0.05 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 |
| 686607 | nd | bdl | bdl | bdl | nd | nd | nd | nd | nd | nd |
| 686608 | nd | bdl | nd | bdl | nd | nd | nd | nd | nd | nd |
| 686609 | nd | nd | nd | nd | nd | nd | nd | nd | nd | nd |
| 686610 | nd | bdl | nd | bdl | nd | nd | nd | nd | nd | nd |
| 686611 | nd | nd | nd | nd | nd | nd | nd | nd | nd | nd |
| 686612 | nd | bdl | nd | bdl | nd | nd | 0.04 | nd | nd | nd |
| 686613 | nd | bdl | nd | bdl | nd | nd | nd | nd | nd | nd |
| 686613D | nd | nd | nd | nd | nd | nd | nd | nd | nd | nd |
| 686614 | nd | 2.78 | 1.65 | 1.13 | nd | nd | nd | nd | nd | nd |
| 686615 | nd | bdl | nd | bdl | nd | nd | nd | nd | nd | nd |
| 686616 | nd | bdl | nd | bdl | nd | nd | nd | nd | nd | nd |
| 686617 | nd | bdl | bdl | bdl | nd | nd | nd | nd | nd | nd |
| 686623 | 0.03 | 0.14 | 0.08 | 0.06 | nd | nd | nd | 0.05 | nd | 0.42 |
| 686623D | 0.03 | 0.06 | 0.06 | bdl | nd | nd | nd | 0.05 | nd | 0.39 |
| 686624 | nd | bdl | nd | bdl | nd | nd | nd | nd | nd | nd |
| | | | | | | | | | | |
| 686619 | nd | nd | nd | nd | nd | nd | nd | nd | nd | nd |
| 686620 | nd | nd | nd | nd | nd | nd | nd | nd | nd | nd |
| 686621 | nd | nd | nd | nd | nd | nd | nd | nd | nd | nd |
| 686622 | nd | nd | nd | nd | nd | nd | nd | nd | nd | nd |
| | | | | | | | | | | |
| method blank | nd | nd | nd | nd | nd | nd | nd | nd | nd | nd |

No RL (Reporting Limit) is available for summed combinations of analytes. In summed columns (eg., BTEX), the reported values should be considered ESTIMATED if any of the individual compounds were reported as bdl.

GORE(TM) SURVEYS ANALYTICAL RESULTS
OHIO EPA, GROVEPORT, OH
GORE STANDARD TARGET VOCs/SVOCs PLUS GRPH AND DRPH
CUSTOM CLEANERS AND WOODWARD PARK SHOPPING CENTER SITES
PRODUCTION ORDER # 21585177

| SAMPLE NAME | OCT, ug | PCE, ug | 14DCB, ug | Acenaphthene, ug | Acenaphthylene, ug | Fluorene, ug | CCl4, ug | 112TCA, ug | CIBENZ, ug |
|--------------|---------|---------|-----------|------------------|--------------------|--------------|----------|------------|------------|
| RL= | 0.02 | 0.02 | 0.02 | 0.05 | 0.05 | 0.05 | 0.02 | 0.02 | 0.02 |
| 686607 | 0.12 | 0.16 | nd | bdl | nd | bdl | nd | nd | nd |
| 686608 | 0.10 | nd | nd | nd | nd | bdl | nd | nd | nd |
| 686609 | 0.16 | nd | nd | nd | nd | bdl | nd | nd | nd |
| 686610 | nd | nd | nd | bdl | bdl | bdl | nd | nd | nd |
| 686611 | bdl | nd | nd | nd | nd | bdl | nd | nd | nd |
| 686612 | 0.27 | 0.02 | nd | bdl | nd | bdl | nd | nd | nd |
| 686613 | 0.05 | nd | nd | nd | nd | bdl | nd | nd | nd |
| 686613D | 0.04 | 0.03 | nd | nd | nd | nd | nd | nd | nd |
| 686614 | 0.02 | nd | nd | 0.68 | 0.06 | 0.17 | nd | nd | nd |
| 686615 | bdl | nd | nd | nd | nd | bdl | nd | nd | nd |
| 686616 | 0.07 | 0.05 | nd | nd | nd | nd | nd | nd | nd |
| 686617 | 0.09 | nd | nd | bdl | nd | bdl | nd | nd | nd |
| 686623 | nd | 99.93 | nd | 0.32 | bdl | 0.09 | nd | nd | nd |
| 686623D | nd | 98.50 | nd | 0.21 | nd | 0.06 | nd | nd | nd |
| 686624 | 0.07 | 0.04 | nd | bdl | bdl | bdl | nd | nd | nd |
| | | | | | | | | | |
| 686619 | nd | nd | nd | nd | nd | nd | nd | nd | nd |
| 686620 | nd | nd | nd | nd | nd | nd | nd | nd | nd |
| 686621 | nd | nd | nd | nd | nd | bdl | nd | nd | nd |
| 686622 | nd | nd | nd | nd | nd | nd | nd | nd | nd |
| | | | | | | | | | |
| method blank | nd | nd | nd | bdl | nd | 0.08 | nd | nd | nd |

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| SAMPLE NAME | 1112TetCA, ug | 1122TetCA, ug | 13DCB, ug | 12DCB, ug |
|--------------|---------------|---------------|-----------|-----------|
| RL= | 0.02 | 0.02 | 0.02 | 0.02 |
| 686607 | nd | nd | nd | nd |
| 686608 | nd | nd | nd | nd |
| 686609 | nd | nd | nd | nd |
| 686610 | nd | nd | nd | nd |
| 686611 | nd | nd | nd | nd |
| 686612 | nd | nd | nd | nd |
| 686613 | nd | nd | nd | nd |
| 686613D | nd | nd | nd | nd |
| 686614 | nd | nd | nd | nd |
| 686615 | nd | nd | nd | nd |
| 686616 | nd | nd | nd | nd |
| 686617 | nd | nd | nd | nd |
| 686623 | nd | nd | nd | nd |
| 686623D | nd | nd | nd | nd |
| 686624 | nd | nd | nd | nd |
| | | | | |
| 686619 | nd | nd | nd | nd |
| 686620 | nd | nd | nd | nd |
| 686621 | nd | nd | nd | nd |
| 686622 | nd | nd | nd | nd |
| | | | | |
| method blank | nd | nd | nd | nd |

No RL (Reporting Limit) is available for summed combinations of analytes. In summed columns (eg., BTEX), the reported values should be considered ESTIMATED if any of the individual compounds were reported as bdl.

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| DATE ANALYZED | SAMPLE NAME | FIELD | GRPH, ug/m^3 | DRPH, ug/m^3 | TPH, ug/m^3 | BTEX, ug/m^3 | BENZ, ug/m^3 | TOL, ug/m^3 | ETBENZ, ug/m^3 |
|---------------|--------------|------------|--------------|--------------|-------------|--------------|--------------|-------------|----------------|
| | RL= | ID | 62.31 | 23.47 | 23.47 | | 26.87 | 2.84 | 1.34 |
| 9/4/12 | 686607 | p09 | 465.38 | 605.03 | 748.42 | 54.28 | nd | 11.77 | 13.77 |
| 9/5/12 | 686608 | p08 | 358.31 | 247.79 | 360.93 | 47.82 | 28.55 | 10.77 | 2.06 |
| 9/5/12 | 686609 | p06 | 415.74 | 84.49 | 219.57 | 81.85 | 50.58 | 19.73 | 3.90 |
| 9/4/12 | 686610 | p05 | bdl | bdl | 25.14 | nd | nd | nd | nd |
| 9/4/12 | 686611 | p04 | 215.52 | 121.57 | 189.01 | 7.59 | nd | 5.49 | bdl |
| 9/5/12 | 686612 | p02 | 2547.22 | 504.27 | 1350.63 | 55.03 | 34.60 | 10.98 | 1.89 |
| 9/4/12 | 686613 | p03 | 287.21 | 99.94 | 191.42 | 5.32 | nd | 3.51 | nd |
| 9/5/12 | 686613D | p03 | 202.43 | 26.50 | 92.19 | 4.94 | nd | 3.51 | nd |
| 9/5/12 | 686614 | p01 | 123.11 | 172.87 | 209.93 | 21.74 | nd | 6.89 | 3.69 |
| 9/4/12 | 686615 | p07 | 111.29 | 136.73 | 170.49 | 6.01 | nd | 3.73 | bdl |
| 9/5/12 | 686616 | p12 | 322.63 | 122.58 | 225.49 | 63.51 | 37.67 | 14.37 | 3.39 |
| 9/4/12 | 686617 | p13 | 408.93 | 187.35 | 317.50 | 71.12 | 39.01 | 17.95 | 4.36 |
| 9/4/12 | 686623 | p10 | bdl | 126.76 | 132.65 | nd | nd | nd | nd |
| 9/5/12 | 686623D | p10 | bdl | 99.42 | 102.75 | nd | nd | nd | nd |
| 9/4/12 | 686624 | p11 | 278.28 | 204.51 | 291.95 | 75.15 | 37.30 | 21.39 | 3.64 |
| 9/4/12 | 686619 | Trip Blank | bdl | bdl | 25.24 | nd | nd | nd | nd |
| 9/4/12 | 686620 | Trip Blank | bdl | 33.02 | 33.81 | nd | nd | nd | nd |
| 9/5/12 | 686621 | Trip Blank | bdl | bdl | bdl | nd | nd | nd | nd |
| 9/5/12 | 686622 | Trip Blank | bdl | bdl | bdl | nd | nd | nd | nd |
| 9/5/12 | method blank | | nd | bdl | bdl | nd | nd | nd | nd |

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| SAMPLE NAME | mpXYL, ug/m^3 | oXYL, ug/m^3 | C11, C13, &C15, ug/m^3 | UNDEC, ug/m^3 | TRIDEC, ug/m^3 | PENTADEC, ug/m^3 | TMBs, ug/m^3 |
|--------------|---------------|--------------|------------------------|---------------|----------------|------------------|--------------|
| RL= | 1.22 | 1.70 | | 2.56 | 2.56 | 2.56 | |
| 686607 | 17.18 | 11.56 | 43.00 | 19.85 | 17.17 | 5.99 | 22.82 |
| 686608 | 4.11 | 2.34 | 13.21 | 9.33 | 3.87 | bdl | 2.32 |
| 686609 | 4.80 | 2.83 | 3.47 | 3.47 | bdl | bdl | 2.84 |
| 686610 | nd | nd | 7.13 | 7.13 | nd | nd | nd |
| 686611 | 2.10 | bdl | bdl | bdl | bdl | nd | 1.54 |
| 686612 | 4.59 | 2.97 | 24.17 | 19.99 | 4.18 | bdl | 8.56 |
| 686613 | 1.80 | bdl | bdl | bdl | bdl | bdl | 1.70 |
| 686613D | 1.43 | bdl | bdl | bdl | bdl | nd | nd |
| 686614 | 6.76 | 4.40 | 3.20 | 3.20 | bdl | bdl | 12.58 |
| 686615 | 2.27 | bdl | bdl | bdl | bdl | bdl | 1.75 |
| 686616 | 4.93 | 3.14 | 3.05 | 3.05 | bdl | bdl | 3.21 |
| 686617 | 6.07 | 3.74 | 10.74 | 7.87 | 2.86 | bdl | 6.74 |
| 686623 | nd | nd | bdl | bdl | bdl | bdl | bdl |
| 686623D | nd | nd | bdl | bdl | bdl | bdl | bdl |
| 686624 | 8.39 | 4.43 | 9.59 | 5.15 | 4.44 | bdl | 6.69 |
| 686619 | nd | nd | nd | nd | nd | nd | nd |
| 686620 | nd | nd | nd | nd | nd | nd | nd |
| 686621 | nd | nd | nd | nd | nd | nd | nd |
| 686622 | nd | nd | bdl | bdl | nd | nd | nd |
| method blank | nd | nd | nd | nd | nd | nd | nd |

No RL (Reporting Limit) is available for summed combinations of analytes. In summed columns (eg., BTEX), the reported values should be considered ESTIMATED if any of the individual compounds were reported as bdl.

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| SAMPLE NAME | 124TMB, ug/m^3 | 135TMB, ug/m^3 | ct12DCE, ug/m^3 | t12DCE, ug/m^3 | c12DCE, ug/m^3 | NAPH&2-MN, ug/m^3 | NAPH, ug/m^3 |
|--------------|----------------|----------------|-----------------|----------------|----------------|-------------------|--------------|
| RL= | 1.38 | 1.83 | | 322.69 | 104.83 | | 2.56 |
| 686607 | 16.74 | 6.08 | nd | nd | nd | bdl | bdl |
| 686608 | 2.32 | bdl | nd | nd | nd | bdl | nd |
| 686609 | 2.84 | bdl | nd | nd | nd | nd | nd |
| 686610 | nd | nd | nd | nd | nd | bdl | nd |
| 686611 | 1.54 | bdl | nd | nd | nd | nd | nd |
| 686612 | 6.10 | 2.46 | nd | nd | nd | bdl | nd |
| 686613 | 1.70 | nd | nd | nd | nd | bdl | nd |
| 686613D | nd | nd | nd | nd | nd | nd | nd |
| 686614 | 7.99 | 4.60 | nd | nd | nd | 153.63 | 90.60 |
| 686615 | 1.75 | bdl | nd | nd | nd | bdl | nd |
| 686616 | 3.21 | bdl | nd | nd | nd | bdl | nd |
| 686617 | 4.43 | 2.31 | nd | nd | nd | bdl | bdl |
| 686623 | bdl | bdl | 104.86 | nd | 104.86 | 2.99 | 2.99 |
| 686623D | bdl | bdl | bdl | nd | bdl | bdl | bdl |
| 686624 | 4.53 | 2.15 | nd | nd | nd | bdl | nd |
| | | | | | | | |
| 686619 | nd | nd | nd | nd | nd | nd | nd |
| 686620 | nd | nd | nd | nd | nd | nd | nd |
| 686621 | nd | nd | nd | nd | nd | nd | nd |
| 686622 | nd | nd | nd | nd | nd | nd | nd |
| | | | | | | | |
| method blank | nd | nd | nd | nd | nd | nd | nd |

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| SAMPLE NAME | 2MeNAPH, ug/m^3 | MTBE, ug/m^3 | 11DCA, ug/m^3 | CHCl3, ug/m^3 | 111TCA, ug/m^3 | 12DCA, ug/m^3 | TCE, ug/m^3 | OCT, ug/m^3 |
|--------------|-----------------|--------------|---------------|---------------|----------------|---------------|-------------|-------------|
| RL= | 2.56 | 153.85 | 110.67 | 56.59 | 33.55 | 27.20 | 11.38 | 2.93 |
| 686607 | bdl | nd | nd | nd | nd | nd | nd | 19.67 |
| 686608 | bdl | nd | nd | nd | nd | nd | nd | 9.92 |
| 686609 | nd | nd | nd | nd | nd | nd | nd | 25.25 |
| 686610 | bdl | nd | nd | nd | nd | nd | nd | nd |
| 686611 | nd | nd | nd | nd | nd | nd | nd | 2.93 |
| 686612 | bdl | nd | nd | 112.11 | nd | nd | nd | 42.18 |
| 686613 | bdl | nd | nd | nd | nd | nd | nd | 8.31 |
| 686613D | nd | nd | nd | nd | nd | nd | nd | 7.15 |
| 686614 | 63.04 | nd | nd | nd | nd | nd | nd | 3.77 |
| 686615 | bdl | nd | nd | nd | nd | nd | nd | bdl |
| 686616 | bdl | nd | nd | nd | nd | nd | nd | 11.96 |
| 686617 | bdl | nd | nd | nd | nd | nd | nd | 14.60 |
| 686623 | bdl | nd | nd | nd | 54.47 | nd | 118.51 | nd |
| 686623D | bdl | nd | nd | nd | 52.42 | nd | 111.75 | nd |
| 686624 | bdl | nd | nd | nd | nd | nd | nd | 6.71 |
| | | | | | | | | |
| 686619 | nd | nd | nd | nd | nd | nd | nd | nd |
| 686620 | nd | nd | nd | nd | nd | nd | nd | nd |
| 686621 | nd | nd | nd | nd | nd | nd | nd | nd |
| 686622 | nd | nd | nd | nd | nd | nd | nd | nd |
| | | | | | | | | |
| method blank | nd | nd | nd | nd | nd | nd | nd | nd |

No RL (Reporting Limit) is available for summed combinations of analytes. In summed columns (eg., BTEX), the reported values should be considered ESTIMATED if any of the individual compounds were reported as bdl.

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| SAMPLE NAME | PCE, ug/m^3 | 14DCB, ug/m^3 | Acenaphthene, ug/m^3 | Acenaphthylene, ug/m^3 | Fluorene, ug/m^3 | CCl4, ug/m^3 | 112TCA, ug/m^3 |
|--------------|-------------|---------------|----------------------|------------------------|------------------|--------------|----------------|
| RL= | 2.16 | 1.12 | 2.56 | 2.56 | 2.56 | 30.08 | 1.95 |
| 686607 | 20.31 | nd | bdl | nd | bdl | nd | nd |
| 686608 | nd | nd | nd | nd | bdl | nd | nd |
| 686609 | nd | nd | nd | nd | bdl | nd | nd |
| 686610 | nd | nd | bdl | bdl | bdl | nd | nd |
| 686611 | nd | nd | nd | nd | bdl | nd | nd |
| 686612 | 2.80 | nd | bdl | nd | bdl | nd | nd |
| 686613 | nd | nd | nd | nd | bdl | nd | nd |
| 686613D | 3.33 | nd | nd | nd | nd | nd | nd |
| 686614 | nd | nd | 38.65 | 3.99 | 10.26 | nd | nd |
| 686615 | nd | nd | nd | nd | bdl | nd | nd |
| 686616 | 7.17 | nd | nd | nd | nd | nd | nd |
| 686617 | nd | nd | bdl | nd | bdl | nd | nd |
| 686623 | >7176.65 | nd | 10.97 | bdl | 3.12 | nd | nd |
| 686623D | >7075.05 | nd | 7.43 | nd | bdl | nd | nd |
| 686624 | 2.85 | nd | bdl | bdl | bdl | nd | nd |
| 686619 | nd | nd | nd | nd | nd | nd | nd |
| 686620 | nd | nd | nd | nd | nd | nd | nd |
| 686621 | nd | nd | nd | nd | bdl | nd | nd |
| 686622 | nd | nd | nd | nd | nd | nd | nd |
| method blank | nd | nd | bdl | nd | 3.83 | nd | nd |

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| SAMPLE NAME | CIBENZ, ug/m^3 | 1112TetCA, ug/m^3 | 1122TetCA, ug/m^3 | 13DCB, ug/m^3 | 12DCB, ug/m^3 |
|--------------|----------------|-------------------|-------------------|---------------|---------------|
| RL= | 1.40 | 1.05 | 1.05 | 1.11 | 1.06 |
| 686607 | nd | nd | nd | nd | nd |
| 686608 | nd | nd | nd | nd | nd |
| 686609 | nd | nd | nd | nd | nd |
| 686610 | nd | nd | nd | nd | nd |
| 686611 | nd | nd | nd | nd | nd |
| 686612 | nd | nd | nd | nd | nd |
| 686613 | nd | nd | nd | nd | nd |
| 686613D | nd | nd | nd | nd | nd |
| 686614 | nd | nd | nd | nd | nd |
| 686615 | nd | nd | nd | nd | nd |
| 686616 | nd | nd | nd | nd | nd |
| 686617 | nd | nd | nd | nd | nd |
| 686623 | nd | nd | nd | nd | nd |
| 686623D | nd | nd | nd | nd | nd |
| 686624 | nd | nd | nd | nd | nd |
| | | | | | |
| 686619 | nd | nd | nd | nd | nd |
| 686620 | nd | nd | nd | nd | nd |
| 686621 | nd | nd | nd | nd | nd |
| 686622 | nd | nd | nd | nd | nd |
| | | | | | |
| method blank | nd | nd | nd | nd | nd |

No RL (Reporting Limit) is available for summed combinations of analytes. In summed columns (eg., BTEX), the reported values should be considered ESTIMATED if any of the individual compounds were reported as bdl.



GORE® Surveys

FOR ENVIRONMENTAL

Concentration Method Calculation Summary for GORE® Module

In environmental analysis obtaining a contaminate concentration value allows for quantifiable risk assessment. The following procedure outlines the method used to determine accurate concentration values from the GORE® Module in soil gas and air sampling:

DERIVATION OF CONCENTRATION EQUATION

When a fresh module (which, by definition and verification, has a contaminate concentration of zero) is inserted into a locally homogenous contaminated media (with a non-zero contaminant concentration), a concentration gradient is created between the module and the media. Due to the concentration gradient, contaminant will diffuse from the media across the permeable membrane to the enclosed adsorbents as described by Fick's first law of diffusion¹, often expressed in differential form as:

$$F = -D \left(\frac{dC}{dx} \right) \text{ or in the integral form as: } \frac{dm}{dt} = -D \left(\frac{A}{L} \right) (C_x - C_o) \quad (1)$$

where m = mass, t = time, D = diffusion coefficient, (A/L) = geometric parameter describing shape of sampler, C_x = concentration of analyte in the module at time, $t = x$, C_o = concentration at time, $t = 0$.

As we ultimately want to measure the concentration of the analyte, we rearrange equation (1) to solve for C_x :

$$C_x = - \left[\left(\frac{1}{D} \right) \left(\frac{L}{A} \right) \left(\frac{dm}{dt} \right) \right] + C_o \quad (2)$$

By using a fresh module, the initial concentration (C_o) in the module is zero. We combine the quantity $D \frac{A}{L}$, which is referred to as the sampling rate²(S) of the module, measured in units of vol/time for the analyte of interest. This yields:

$$C_x = - \left[\left(\frac{1}{S} \right) \left(\frac{dm}{dt} \right) \right] \quad (3)$$

Thus, concentration (C_x) can be calculated by using the mass (m) of the analyte adsorbed to the module after a given exposure time (t) and the sampling rate (S) for the analyte of interest. Two of these values are straightforward – the mass is measured using our standard thermal desorption GC/MS procedure, the time is documented by the field installation team. The third, sampling rate (S), is measured through a series of controlled chamber experiments for each analyte. Using these three values, an accurate contaminate concentration value can be calculated using the GORE® Module. The process for determining S for the GORE® Module is described briefly in the next section.

DETERMINING the S PARAMETER – GORE® Module Sampling Rate

To determine S for the GORE® Module we have exposed modules for different times (t) at various concentrations (C). We then plot mass (m) vs. time (t) and divide the slope by concentration to gain a value for S for that compound as shown in equation (4) which is rearranged from equation (3).

$$S = - \left[\left(\frac{1}{C} \right) \left(\frac{dm}{dt} \right) \right] \quad (4)$$

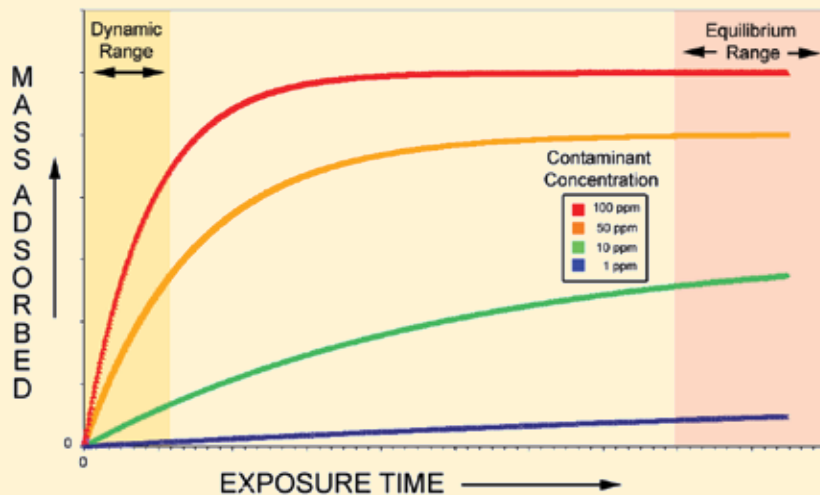


Figure 1 shows typical adsorption curves for a GORE® Module exposed to a compound at various concentration levels. Notice that in the dynamic range that slopes vary in proportion to concentration.

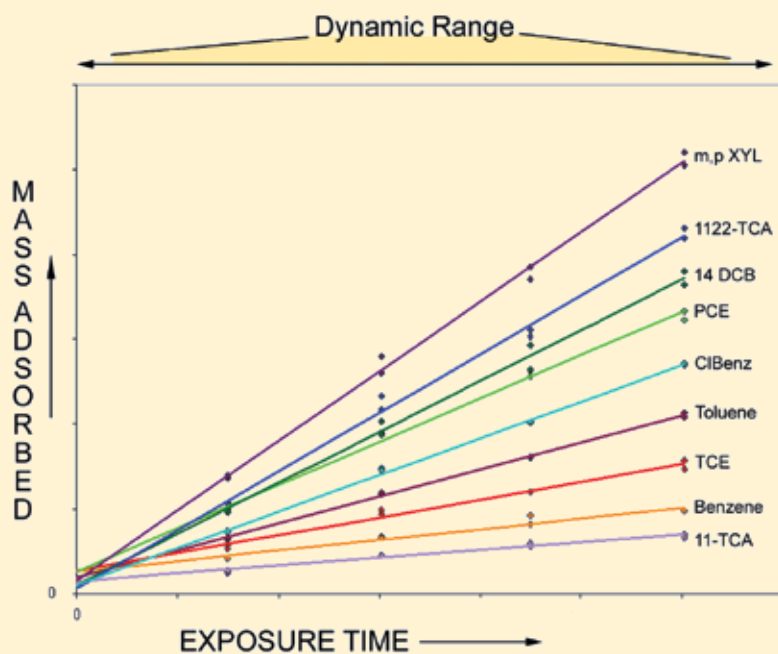


Figure 2 shows the uptake rate for various compounds typical of environmental investigations in the linear dynamic range.

When measuring S , we tested each compound at varying temperature (10 to 40°C), relative humidity (0 to 80%), flow rate (0.5 to 15cm/s) and vapor concentrations (0.1ppb to 100ppm).

Under typical sampling conditions, none of these variables were found to significantly impact the sampling rate.

ADJUSTMENTS FOR DIFFUSION RESISTANCE IN SOIL

When measuring gas concentration values in soils we must adjust the sampling rate (S_{air}) values to account for the increased tortuosity due to the presence of soil and moisture.

We previously defined the sampling rate of the module for the analyte of interest as:

$$S_{air} = D_{air} (A/L) \quad (5)$$

In soil, the effective diffusion coefficient (D_{air}) is reduced due to the increased tortuosity, and can be described as:

$$D_{soil} = E(D_{air}) \quad (6)$$

resulting in (when combined with (5))

$$S_{soil} = E(S_{air}) \quad (7)$$

where E is the “Soil Effectiveness Factor.”

As Millington & Quirk³ showed, E is governed by the total soil porosity (θ , total volume of pores/total volume) and volumetric air content (Φ , volume of air/total volume) of the media and relates as:

$$E = \frac{(\Phi)^{10/3}}{(\theta)^2} \quad (8)$$

Expressing E as a function of total soil porosity (θ) and water filled porosity (ϵ , volume of water/volume of pores), this relation can be rearranged as:

$$E = \theta^{(4/3)} (1 - \epsilon)^{(10/3)} : \text{as } \Phi, \theta \text{ and } \epsilon \text{ have the following relationship:} \quad (9)$$
$$\Phi = \theta (1 - \epsilon)$$

Once we’ve solved for E , we can solve for D_{soil} using equation (5) and S_{soil} using equation (7).

Thus, with measurements for two of these three site-specific soil parameters (θ , ϵ or Φ), soil gas concentration values can be calculated for modules installed in soil.

REFERENCES

- ¹ Cussler, E. L., 1997, *Diffusion, Mass Transfer in Fluid Systems*, 2nd ed., Cambridge Univ., Press, 570p.
² James D. Mulik and Robert G. Lewis *Advances in Air Sampling*, AICHG (1990), ISN 0-87371-115-7, Chapter 9, “Recent Developments in Passive Sampling Devices.”
³ Millington, R.J., and J. M. Quirk, “Permeability of Porous Solids”, *Trans. Faraday Soc.*, 57, (1961), 1200-1207.

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GORE® Surveys

KEY TO DATA TABLE

UNITS

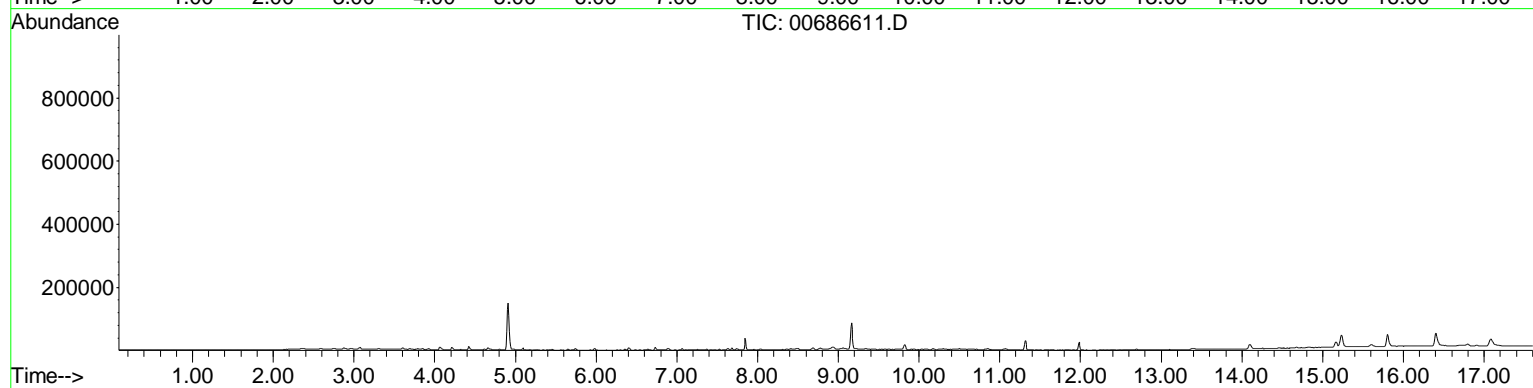
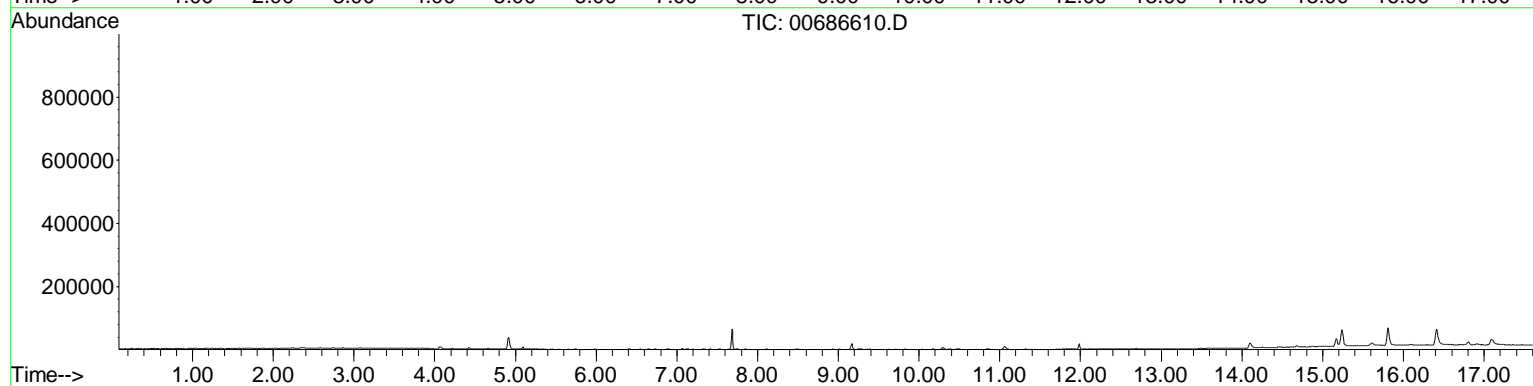
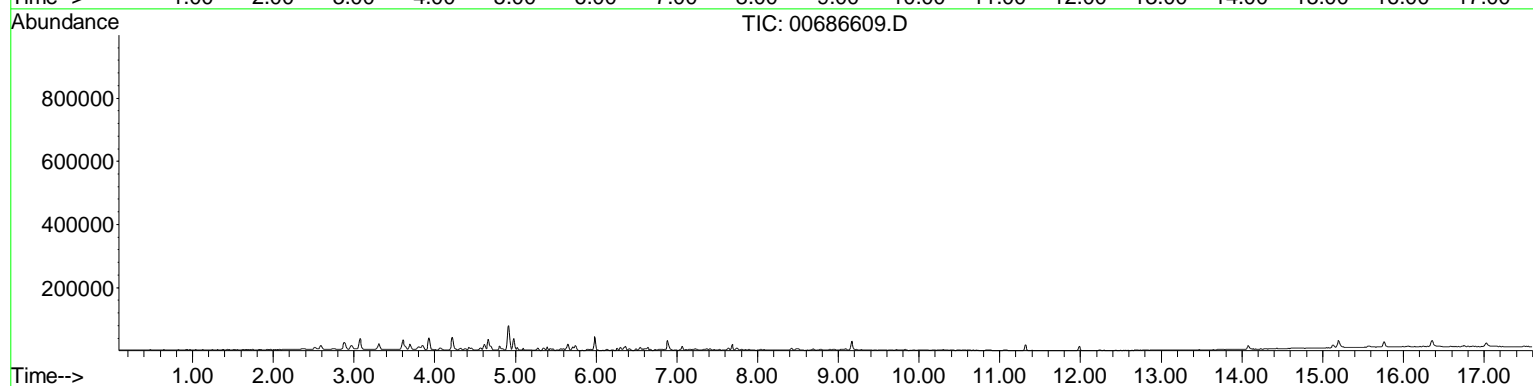
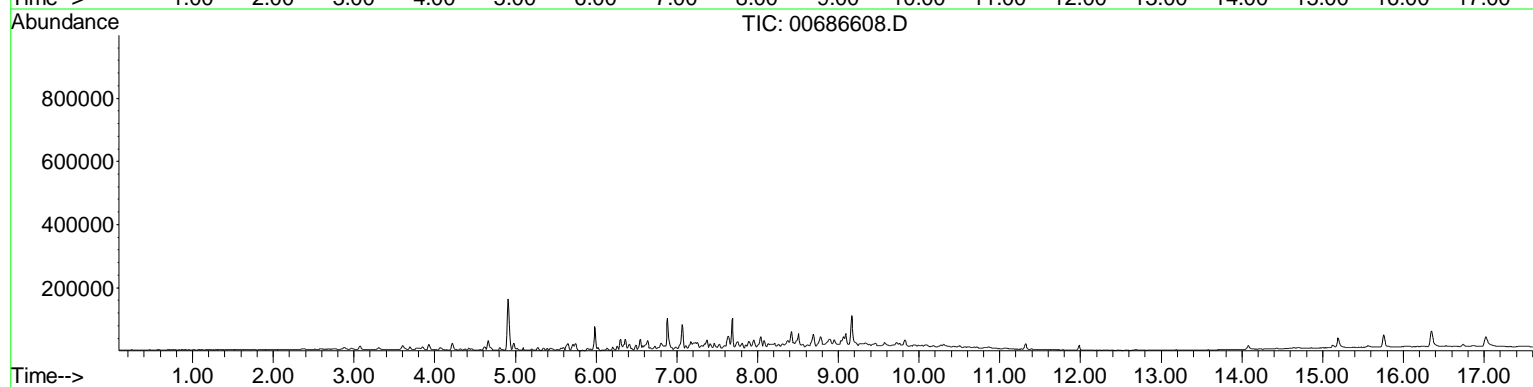
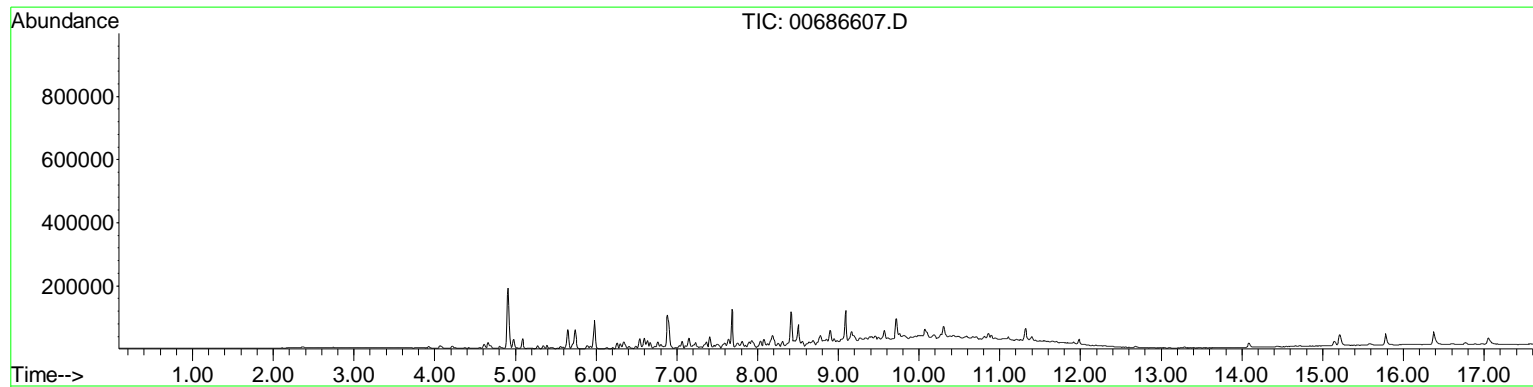
| | |
|-------------------|--|
| µg | micrograms, relative mass value |
| µg/m ³ | micrograms per cubic meter; estimated soil gas concentration |
| RL | reporting limit |
| bdl | below reporting limit; compound was observed at level below the RL |
| nd | non-detect, compound was not detected at any level |
| > | greater than; value considered estimated due to high mass levels |

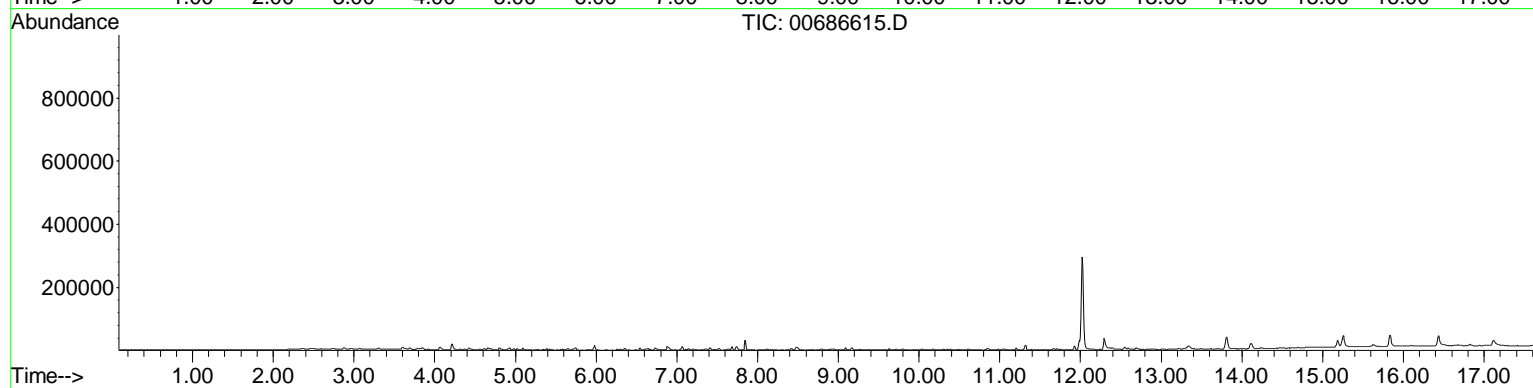
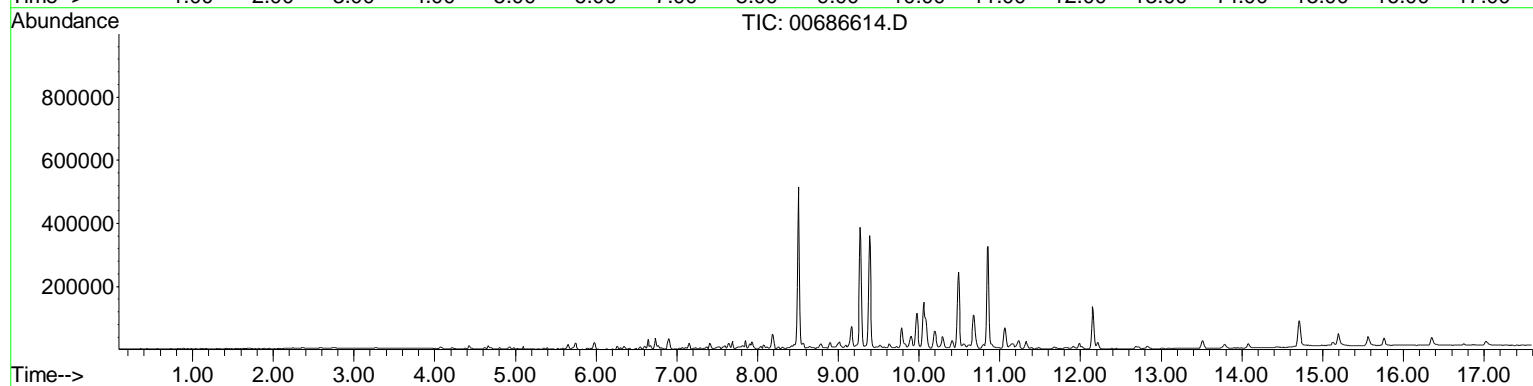
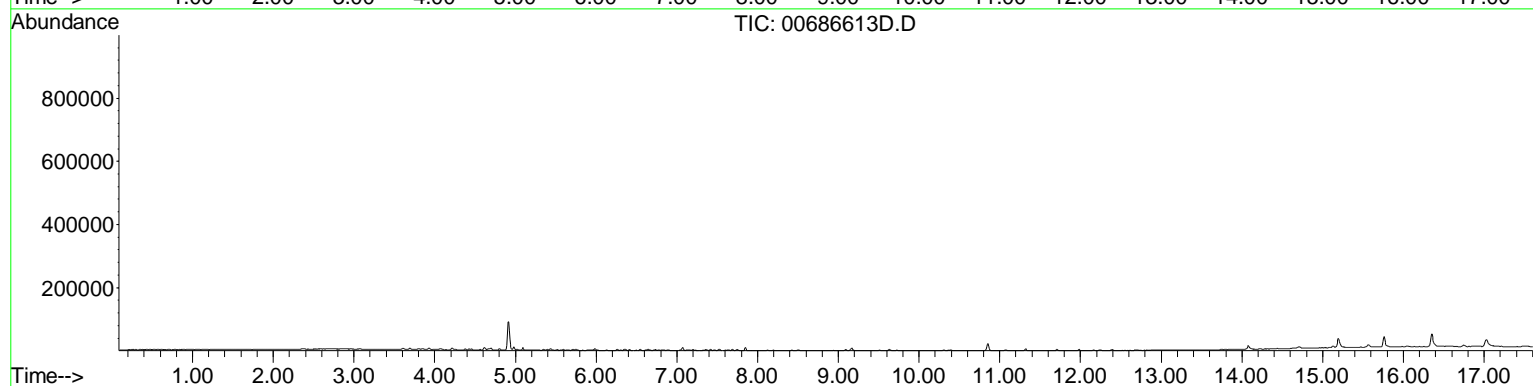
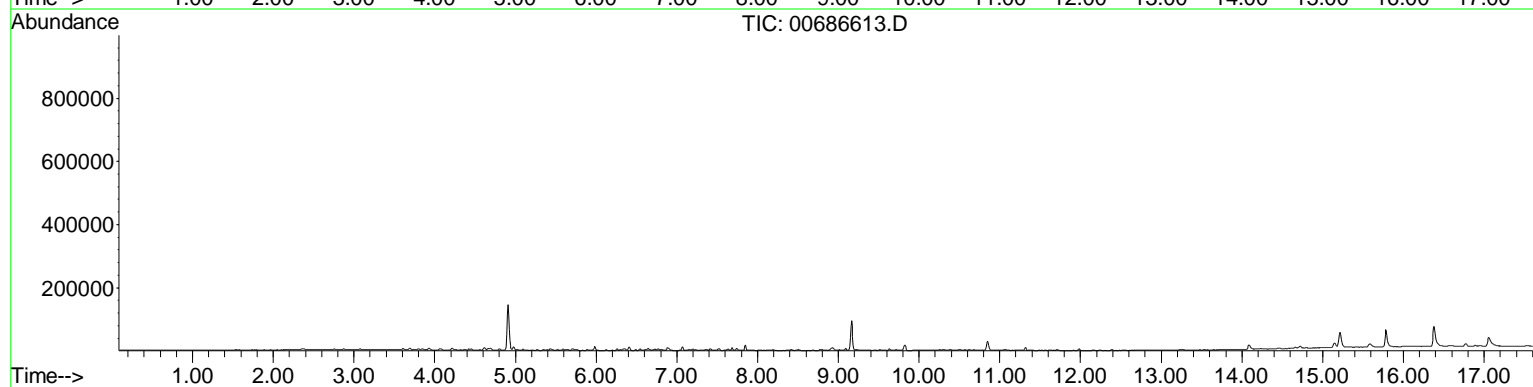
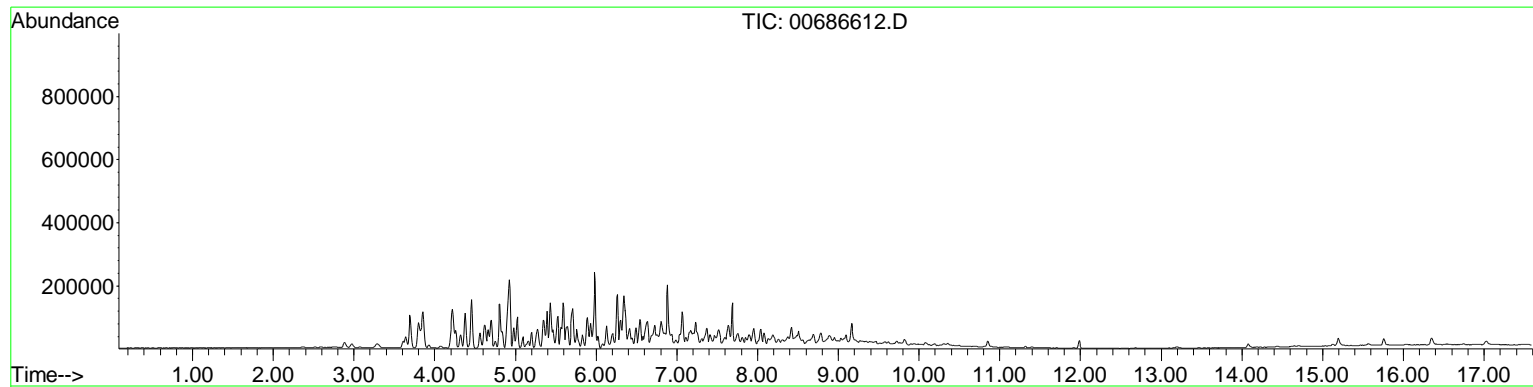
ANALYTES

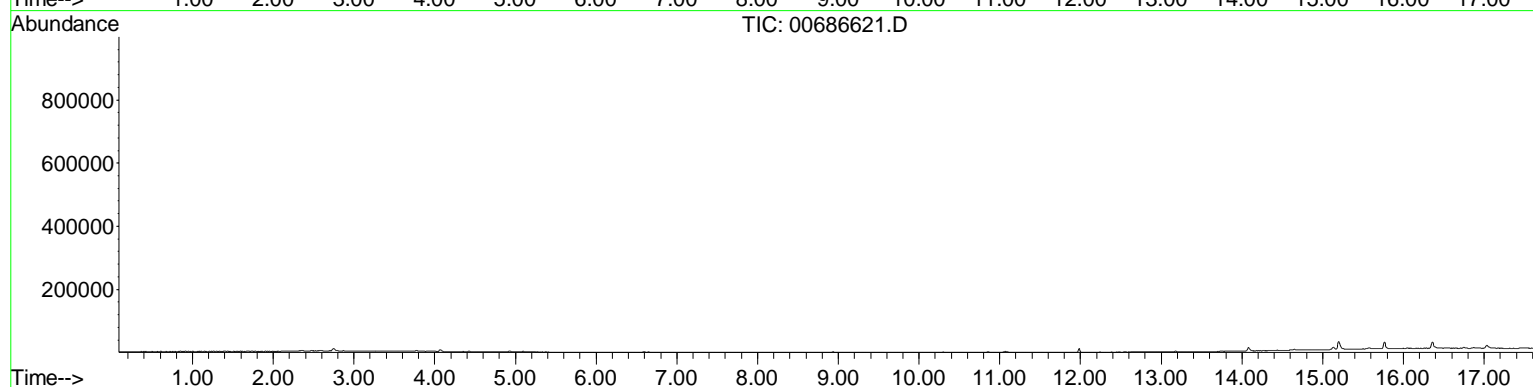
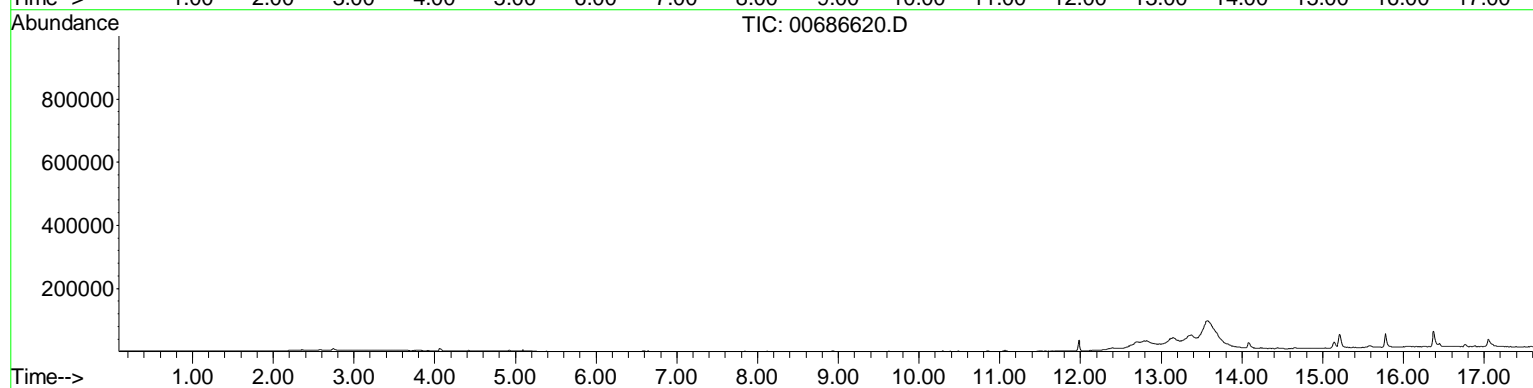
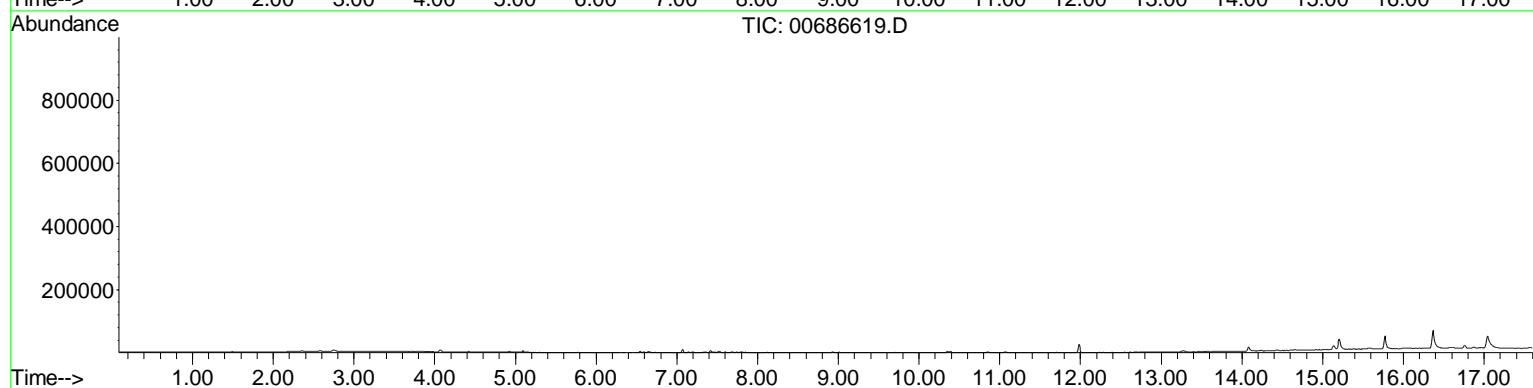
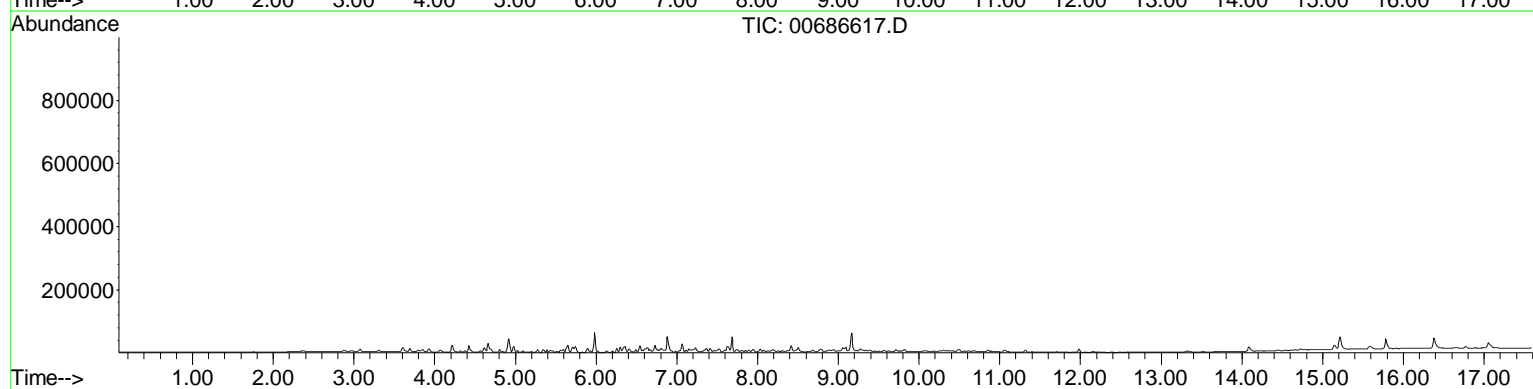
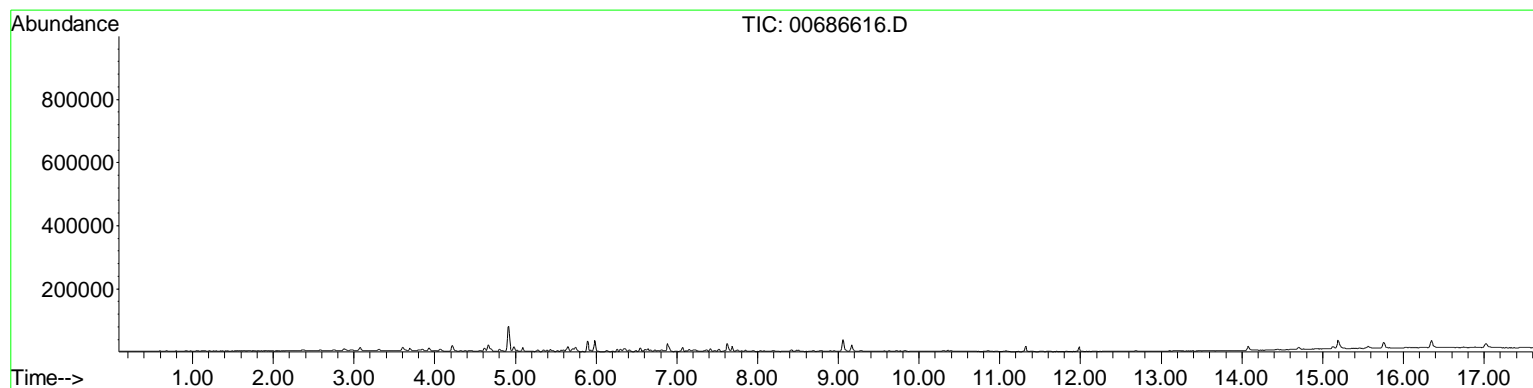
| | |
|-------------|---|
| TPH | total petroleum hydrocarbons |
| BTEX | combined masses of benzene, toluene, ethylbenzene and total xylenes (Gasoline Range Aromatics) |
| BENZ | benzene |
| TOL | toluene |
| EtBENZ | ethylbenzene |
| mpXYL | m-, p-xylene |
| oXYL | o-xylene |
| C11,C13&C15 | combined masses of undecane, tridecane, and pentadecane (C11+C13+C15) (Diesel Range Alkanes) |
| UNDEC | undecane |
| TRIDEC | tridecane |
| PENTADEC | pentadecane |
| TMBs | combined masses of 1,3,5-trimethylbenzene and 1,2,4-trimethylbenzene |
| 135TMB | 1,3,5-trimethylbenzene |
| 124TMB | 1,2,4-trimethylbenzene |
| MTBE | methyl t-butyl ether |
| PHEN | phenanthrene |
| NAPH | naphthalene |
| 2MeNAPH | 2-methyl naphthalene |
| MTBE | methyl t-butyl ether |
| OCT | octane |
| ct12DCE | cis- & trans-1,2-dichloroethene |
| t12DCE | trans-1,2-dichloroethene |
| c12DCE | cis-1,2-dichloroethene |
| 11DCA | 1,1-dichloroethane |
| CHC13 | chloroform |
| 111TCA | 1,1,1-trichloroethane |
| 12DCA | 1,2-dichloroethane |
| CC14 | carbon tetrachloride |
| TCE | trichloroethene |
| PCE | tetrachloroethene |
| CIBENZ | chlorobenzene |
| 14DCB | 1,4-dichlorobenzene |
| 112TCA | 1,1,2-trichloroethane |
| 1112TetCA | 1,1,1,2-tetrachloroethane |
| 1122TetCA | 1,1,2,2-tetrachloroethane |
| 13DCB | 1,3-dichlorobenzene |
| 12DCB | 1,2-dichlorobenzene |

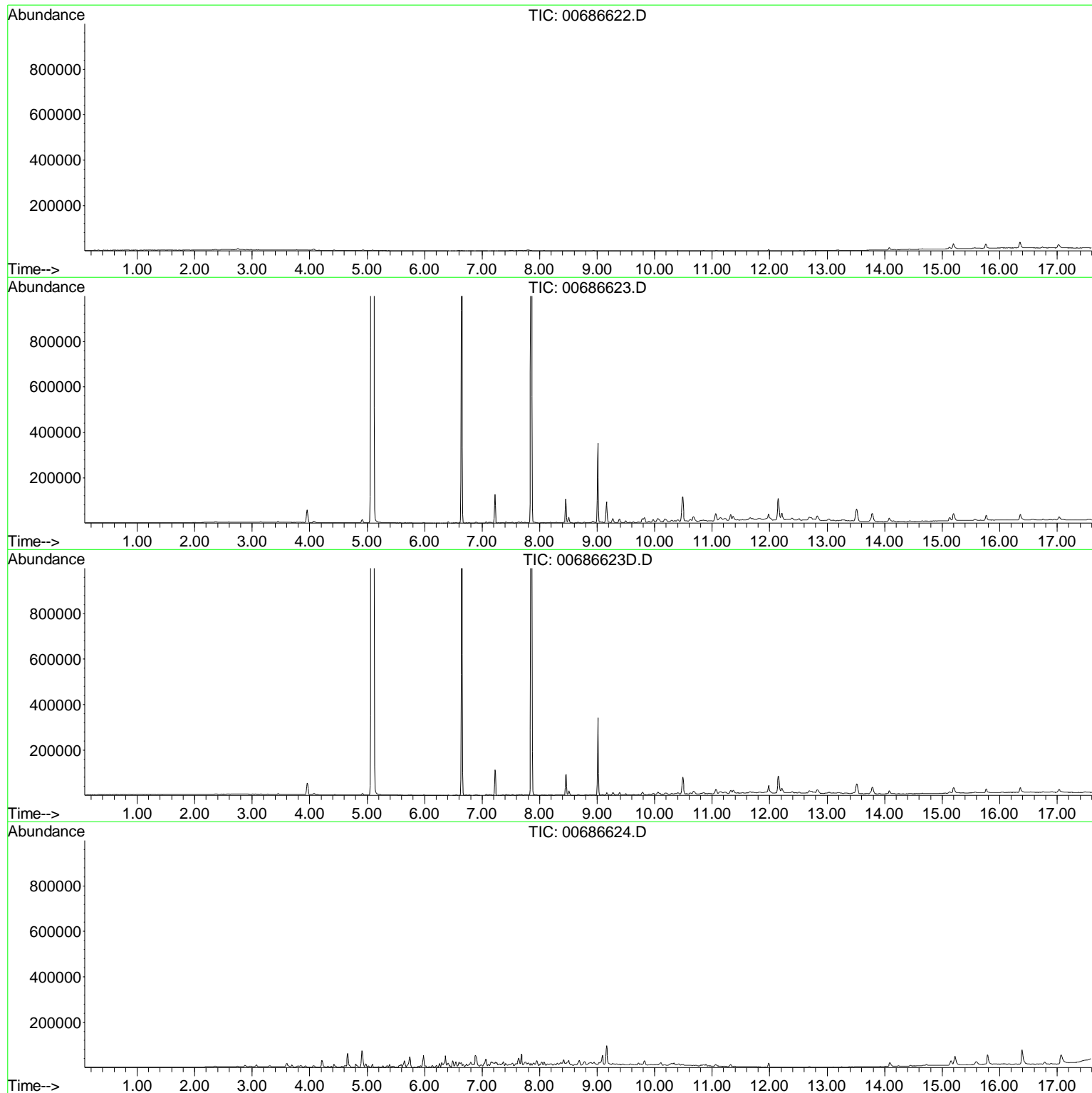
BLANKS

| | |
|--------------|---|
| method blank | QA/QC module, documents analytical conditions during analysis |
|--------------|---|









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